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ORIGINAL ARTICLES.

THE DEFECTIVE CLASSES AND LEGISLATION FOR THE PREVENTION OF BLINDNESS.

Read before the Bureau County (Ill.) Medical Society.

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I do not intend to enter into a discussion of some abstruse medical problem, neither do I contemplate engaging your attention with a learned dissertation on any particular subject. I desire merely to touch upon the A, B, C, of sociology, as far as it pertains to the care and improvement of the so-called defective classes. Later on, I will deal more at length with the subject which lies nearest my heart, the blind, and determine why there are so many of these afflicted beings in the world and how we can prevent this sad misfortune. Under the term, "defective classes," we commonly understand all those individuals who, either owing to some physical infirmity or mental defect, are rendered unable to take up the battle of life on an equal footing with the remainder of mankind. They are handicapped in the struggle for existence. Under this category we must place the deaf and dumb, the blind, the feeble-minded, the insane, the epileptics, and the decrepit paupers. Again, we possess in our midst an ever-increasing set of individuals whose minds are so warped that they have lost all regard for law and order, who will not follow the path of rectitude, to whom the sense of right and wrong is a minus quantity. I refer to the criminal classes commonly termed prisoners. As civilization progresses and the demands and ambitions of society increase, so does the struggle for bread and the luxuries of this world. It is a question of the "survival of the fittest." We are governed by the same laws which control plant and lower animal life. The stronger succeed and come to the top, the weaker succumb and are pushed to the wall. But we differ from the animal in recognizing the debilities, the weaknesses of our fellow-men, and in founding for them institutions where the necessary provisions are made to better their condition. Thus we erect asylums or rather hospitals for the care and treatment of the insane, build schools for the education of the deaf, dumb and blind. We care for our paupers in county almshouses, and we place the offenders of society behind lock and bars. Thus society performs its duty by providing for those who owing to their defects either can not keep apace with it, or who attempt to overthrow its organization or sap at its foundations by preying upon it.

It is well my friends that we always have the poor with us. Their very presence and the demands made upon us by the weak are in one respect a blessing to mankind. They assist in educating the better nature of man, in lessening the innate selfishness and in one word, in developing and broadening those nobler instincts which we term human. They are constantly teaching us another lesson by which we should profit. Their very existence is the result of violations of the laws of nature, the results of moral wrongs and lethargy of society at large. Their number is constantly increasing owing partly to lack of education, partly to lack of proper State legislation, partly to immigration and last but not least to the lax manner in which our laws are enforced, or rather not carried into execution. You will be surprised to learn what a tale of woe our eleventh census recites in relation to crime and pauperism. One of its disclosures is the disproportionate increase of these classes. In 1850 there was one criminal to 3,500 of the population; in 1890 we have the appalling figures presented to us of 1 to 786.5 of the inhabitants of our country. Just think of this alarming and menacing increase—445 per cent. in forty years, while the population has increased but 170 per cent. If this rate of development continues will there soon be any honest people residing in this, our glorious prosperous country?

Henry M. Boies, in his recent book on "Prisoners and Paupers" shows that this alarming state of affairs does not exist in the other civilized nations. We are a prosperous nation in every respect, not only in the production of wheat, corn and cotton, but even in the raising of criminals. Again, I repeat, what a wonderful booming people we are! In England, criminal convictions have fallen from 15,033 in 1868 to 9,348 in 1889. In Scotland, from 2,490 to 1,723 for the same years, and in Ireland from 3,084 in 1870 to 1,225 in 1890. The population has fairly increased in these countries during the periods mentioned. The number of imprisonments in France has increased but threefold in half a century, but we beat them all. Let us be happy; we always lead in everything. To be just, it is not more than fair to state that exceptional conditions exist in our midst, to account for this excessive disproportion between what Mr. Boies calls the worthy and the unworthy in our citizenship. I have briefly stated the causes of our affliction, but will still add another factor enumerated by the author just quoted: Our colored population numbering 7,470,040 souls (one-eighth or 1.35 per cent. of our total population) contribute one-third of the convict class. Freed from the burdens of slavery and ignorance, subjected to degradations, hemmed in by prejudice, they have been placed at a terrible disadvantage which, to a certain extent, will account for a large percentage of defectives found among them. We must not lose sight of the unrestricted immigration. Twenty per cent. of our population is composed of foreigners of the first and sec-

ond generation. They furnish more than half of the inmates of our reformatories, over one-third of our convicts and nearly three-fifths of all the paupers in our almshouses. Do not these facts verify what I have stated before? Do they not demonstrate that our educational facilities are faulty? Do they not verify beyond a shadow of a doubt that we have entered into a condition of repose and tranquillity akin to the twenty years' slumber of Rip Van Winkle? Do they not indicate that we have closed our eyes to the dangers of unrestricted immigration? Are we going to uphold this glorious Union; will we continue to welcome with open arms into "the land of the free and home of the brave" a horde of foreign, pauperized, benighted individuals? Or will we open our eyes to the calamities which threaten us? Will we endeavor to profit by the experiences of recent years? Will we heed in time the lessons these statistics teach, and enact and enforce wise laws which will result in the establishment of a better humanity, of a higher civilization?

Now, what is the State of Illinois doing to control the class of individuals we are discussing? The census of 1890 shows that we are taking care of, educating and controlling:

Insane	6,638
Idiots	5,249
Deaf and dumb	2,564
Blind	2,834
Paupers	5,395
Prisoners	3,936
Total	26,616

I have not enumerated the epileptics, the inmates of reformatory and industrial schools, but the above numbers will suffice to show that we are burdened with a heavy load. Besides the abnormal numbers of our community we minister to the care of our worthy brethren, the old soldiers and their orphans. Their fair name must not be tarnished by classifying them at all, except for statistical purposes. To them we owe a debt of gratitude. We are their debtors a thousand times over. It is our bounden duty to mitigate the sufferings of our noble veterans, to lavish comforts upon them, to free them from cares and to surround them with the comforts and luxuries of life. These services we perform with a feeling of pleasure. The children of the dead heroes are our wards. How grateful is the State to bestow a loving and watchful care over their lives.

To provide for this large diversified class of beings intrusted to its care, the State has erected and conducts a great number of institutions. Five insane asylums with over five thousand inmates, patients, are found in various sections of our prairie State; one at Kankakee, one at Elgin, one at Jacksonville, another at Anna and the fifth for insane criminals at Chester. A home for feeble-minded children accommodating over five hundred children is located at Lincoln. The soldiers' orphans' home having, possibly, four hundred inmates was built at Normal in 1867, and the soldiers' and sailors' home at Quincy in 1885. Since 1892, a home for juvenile female offenders was organized, and it is temporarily located in Chicago. A similar institution for boys, the State reform school, has its home in Pontiac. Two more worthy institutions, the institution for the blind and that for the deaf and dumb are carrying on their noble work at Jacksonville. The evil-doers and offenders of our laws are confined in two penitentiaries, the Southern and Joliet prisons. All these institutions are taken care of by the State; the almshouses, jails and numerous reformatories by the counties and private corporations. All these State charitable institutions, conducted by superintendents with an army of employes, and controlled by boards of trustees, are under the absolute supervision of a board of commissioners appointed by the Governor, and called the State Board of Charities, This board consists of five members, whose duties are to audit the accounts of these numerous charities four times a year; to sign orders on the treasury for all moneys expended by them, to exercise an ever watchful control on the welfare and treatment of the State's wards; to suggest innovations and improvements in the running of the institutions; to plan a wise policy for the solution of social problems which are constantly confronting us; to educate themselves through reading and attendance at conventions of national boards, in order to be enabled to give the State the best services it can demand from conscientious, honorable human beings. And how large an appropriation do you think the last Legislature assigned to this Board for expenses it incurs to perform its multitudinous duties? The magnificent sum of $3,000! Just think of it! Three thousand dollars for the secretary's and clerk's salary, for office expenses and for the traveling expenses of its commissioners.

The State demands that these institutions be visited a certain number of times a year and appropriates a beggarly sum of $3,000. The State Board of Health, which is to control and look after the health of the entire community; to keep out smallpox, cholera, scarlet fever; to perfect our water supply, and prevent typhoid fever, and perform a thousand and one duties is also richly compensated. Its appropriation is $9,000, but it also has a contingent fund of $10,000 to draw on, in case some terrible epidemic should attack us. The Board of Live Stock Commissioners receive $15,000 per annum and a contingent fund of $25,000. But you must remember it is far more important to raise a fine herd of sheep or cattle than a brood of children. It is far wiser to show fat, sleek oxen and cows at the State Fair than to save men and women from the ravages of cholera, smallpox and typhoid fever, to prevent crime, to restore lunatics to their normal condition. The Fish Commissioners receive $10,000 a year, so that our ponds and rivers may be well filled with the finny tribe to induce boys to play "hookey" and break the Sabbath. I will not mention what the warehouse commission and the geological museum and other organizations receive. It will suffice to say that two bodies, the Board of Charities and the Board of Health, probably, if I do say it myself, the two most important boards in the State, get for this reason the smallest appropriation of all. Is it not strange that in this, the nineteenth century, the breeding of cattle and fish is regarded as of greater value than the education and reform of human beings and the preservation of good health? Does this not indicate the trend of human effort, especially marked in our country, the scramble after the almighty dollar? Every effort, all our energies are devoted to the accumulation of gold at the expense of vitality. Our legislators having more knowledge and inclination for strictly commercial pursuits are ready to sustain and richly endow such organizations, which stimulate and

improve trade, while movements which tend toward research and investigation, the objects of which are entirely beneficiary, and which enrich society at large, which make the life we live more beautiful and refreshing, are either ignored or provided for with such scanty means that work of real value can not be undertaken.

I do not wish to convey the idea that the State does not expend large sums of money for the care of its defective classes, but what I do mean to say, and that emphatically is, that after the institutions are built and manned, the State does not provide sufficient funds for the organization of a capable board of supervisors, whose duties it should be to introduce ways and means by which a large part of this wealth could be saved or expended for wiser purposes, who could introduce methods by which much of the misery now housed in our institutes could be prevented. I hear you say to yourselves, Can insanity be prevented? Can pauperism be avoided? Can you put a "for rent" sign on our prisons? Do you mean to say that children need not become deaf and dumb, and can you prevent blindness? To all these questions I answer, yes, to a large degree. But it would take too long to enter into a detailed description of this immense subject, the study of prevention. I will, however, as an example of preventive methods, indicate to you how a large percentage of blindness can be avoided. I will inform you how from 25 to 40 per cent. of the inmates of our blind asylums would at the present day be useful and contented individuals, would be in possession of an important sense, if the matter had been seriously considered by our law-makers years ago. In order to discuss this question intelligently, let us first discover to what percentage blindness exists in this country, and then what leads to this affliction. By turning to the last census, that of 1890, we learn that there were in that year, 50,411 blind in the United States—806 blind to every 1,000,000 of the population. In 1850 there were but 9,794—422 to every 1,000,000 of the population, which was then 23,194,896, and in 1890 62,622,250. So that although the total population in forty years has not increased threefold, the number of blind is more than five times greater. The State of Illinois in 1850 contained only 264 sightless beings, 310 to 1,000,000. In 1890 the number was swelled to 2,834—741 to 1,000,000 inhabitants. Our blind asylum at Jacksonville has cost the State up to 1892, $1,156,690.25. A great deal of money you will say. I agree with you. It was well spent, however. For a number of years we have been taking excellent care of those who, literally speaking, grope their way in darkness. But would it not have been more humane to have saved for 25 per cent. of them their vision? How much better they could have paddled their own canoe and selected a path more suitable and genial. And one-quarter of the total sum, almost three hundred thousand dollars could have been expended for some other necessary object, and the 25 per cent. of blind would now be useful citizens, earning livelihoods tilling the soil and assisting in the work of the world. Before trying to prevent blindness we must know what produces it, otherwise our efforts will be unavailing.

It has taken us years and years to discover the cause of diphtheria, and it is only a few years ago that we succeeded, and only recently the papers were proclaiming to the world the cure and possible prevention of this dreaded malady. You all have heard by this time of Professor Behring and his wonderful antitoxin.

For years and years, oculists have noted down those diseases which produce or are followed by destruction of vision. They have been tabulated under various headings. That inventory of misery has been most perfectly arranged by Professor Magnus. In an examination of 2,528 cases of double-sided blindness he found that 3.77 per cent. were born thus; 66.5 per cent. lost their eyes through primary diseases of these organs; 10.7 per cent. were caused by injuries, and 19 per cent. were due to diseases of the body as, for instance, affections of the brain which secondarily destroyed the sight. In looking over these accurate tables we will come to the conclusion that a certain amount of blindness will always exist. We probably will not be able to prevent children from being born blind. Possibly, if human beings could be subjected to the same routine of breeding we employ with cattle, a certain percentage even of these cases, congenital blind, would not occur. We can not prevent all accidents, although safeguards can be taken to reduce the percentage of loss of vision due to these causes. Thus working men engaged in factories and foundries have been advised to guard their eyes against flying bits of iron and steel, by wearing protective mica goggles. Neither can we as yet entirely insure the eyes against the ravages of smallpox, meningitis, etc. The best field, therefore, for the introduction of preventive measures is offered by that chapter dealing with so-called idiopathic diseases of the eyeball, that class of diseases which produce 66 per cent. of blindness. Let us give it closer attention and we will discover that there exist two ailments which are largely responsible for the malady we want to prevent. I refer to granulated lids and ophthalmia of new-born babes. Granulated lids can be prevented by exercising proper care and precautions against infection, and even when present can readily be cured without causing serious results, if such cases are properly handled.

I will, however, speak only of the second category of cases, ophthalmia of new-born children. Different authorities claim from 25 to 50 per cent. of blindness is due to this disease alone. Thus Reinhardt found 30.33 per cent. in a material of 2,165 individual inmates of twenty-two blind asylums. Claisse, of Paris, 46 per cent.; Katz, of Berlin, 41 per cent., and Magnus, of Breslau, 34 per cent. What is ophthalmia neonatorum, which means purulent eye affection of new-born children? It is an inflammation of the inner surface of the lids of babes, coming on two or three days after birth and is caused by infectious matter lodging in the eyes while the newcomer is being ushered into this world. Can this be prevented, and if so, how? Every physician has heard of the prophylactic measures of Hausmann and Credé. The first aims to render the tract through which the child passes absolutely clean (aseptic) by ordering antiseptic douches. The latter, Credé, makes the germs which have lodged between the lids of the child's eyes innocuous, destroys them, by dropping into the conjunctival sac a 2 per cent. solution of nitrate of silver. Statistics gleaned from the largest hospitals in the world have proved effectually that these methods will abort, check or rather positively prevent the disease in nearly all cases. Before Credé's

method was introduced in Leipsic the disease appeared in over 6 per cent. of all obstetrical cases; after its thorough introduction the percentage was reduced to a fraction of 1 per cent. Here is a simple remedy which, if carried out, will prevent at least 25 per cent. of blindness. Professor Fuchs in his work on "Prevention of Blindness" tabulates a list of thousands of cases of births, illustrating the prophylactic effects of various remedies, but he finds none so efficacious to prevent blennorrhea neonatorum as Credè's method. Dr. Lucien Howe, of Buffalo, collected two groups of cases; in the one 8,798 cases, no precautions were employed; in the second group, 8,574 cases, a single drop of a 2 per cent. solution of nitrate of silver was instilled between the lids. In the former the cases of blennorrhea reached 8.66 per cent.; in the latter it was reduced to 0.656 per cent.

I could, if necessary, multiply these statistics of the preventive powers of a 2 per cent. solution of nitrate of silver, but those I have already mentioned will answer to impress upon you its usefulness, and the necessity of its general introduction. Now that I have shown its great importance it may be well to dwell, if only for a moment, upon its method of application. Immediately after birth the infant's eyes are cleansed with a dry cloth and all secretions adherent to the face and eyebrows are carefully removed. The lids are then separated and a single drop of a 2 per cent. solution of nitrate of silver, that is ten grains to the ounce, is instilled into the eye. In order to obtain a single drop only, Credé advises the employment of a glass rod which is to be dipped into the silver solution and only one drop allowed to adhere to its end. If, however, these safeguards should fail in some cases, or perhaps have not been employed and the ophthalmia should make its appearance, it can be cured in fully 99 per cent. of all cases, if the proper remedies are immediately applied. This disease calls for prompt and immediate action; delay of a few hours is often dangerous and may result in ulceration of the front of the eye and subsequent loss of vision. The physician has at his command powerful and adequate remedies to guard against complications and insure a cure in the great majority of cases.

But what has all this to do with legislation for the prevention of blindness, you will say. If these methods are so efficient, as you assert, and are practiced by all conscientious physicians, why does the disease still occur? What need to introduce laws when physicians graduated from reputable schools of medicine have it in their power to eliminate from our records all traces of this malady? Your questions are timely and pertinent and they can be readily answered by in turn putting a question to you. Are all obstetrical cases conducted by physicians? No. Unfortunately, no. Of the 28,743 births recorded in Cook County last year more than half were reported by midwives. The last official register of midwives of this State contains a list of 1,152. Of these, 700 are located in the city of Chicago. They are not acquainted with the latest researches in medicine. How should they be? The majority of them are ignorant. Their services are ordinarily called for by the poor and benighted. Their very existence is a reminder of olden times when physicians were scarce and the population scattered. In those days it was necessary to have at hand individuals who at least could attend to emergencies, quasi physicians who, owing to a limited experience could perform certain duties better at least than the laity. In Germany to this very day, the barber acts as dentist in many villages. But as the science of dentistry increases, people are not so willing to have their teeth jerked out by the barber, but prefer to consult educated physicians, dentists, who frequently fill and save teeth which the knight of the razor would have unfeelingly sacrificed. The same is true of the midwife. Her services are no longer essential as formerly. But it would be difficult to convince the community at large of her indispensability, and as long as we must have her with us, let us at least educate her or place such restrictions upon her that she can not do any harm. We practitioners, and especially we oculists, are acquainted with her ministrations to the poor afflicted infants. The usual popular remedies such as milk, camomile tea, and other worthless noxious remedies are applied to the suppurating lids of the inflamed eyes, and only after valuable time has been lost the physician is called in; usually he finds that the disease which has been sadly neglected has made such serious inroads on the eyes of the infants that all hope of restoring vision has vanished. Again, if their education were sufficiently advanced to enforce antiseptic measures before parturition the results might not be so sad.

This State does not exercise sufficient control over midwives. It should demand a stringent examination on the points just elucidated, before a certificate is issued. I have learned on inquiry at the office of the State Board of Health that such questions, having a bearing on the subject under discussion, have up to the present time never been asked. I requested that the matter be brought to the attention of the Commissioners of Health, and have the satisfaction of knowing that this defect, at least, will soon be remedied. But a stronger action than this should be taken; we should subject the midwife to the action of the law if she does not perform her duty. We must insist that inflammation of the child's eyes be treated by a competent physician, by a man versed in sciences, by an individual who by virtue of his education and studies is the only reliable one to perform such services. A carpenter is not an architect, a bookseller is not necessarily a writer of prose and poetry. A blacksmith is not a veterinary surgeon, a midwife is not an oculist. We often make the barber, blacksmith, and carpenter act as doctors when we put them in a jury box and let them decide the mental condition of a person said to be insane. Do not regard these words as an attack against the midwife personally. It is not her fault if the State does not give her the opportunity of perfecting herself in her business. I can hardly call it a profession. It is not her fault if she is not instructed properly and makes use of the opportunities afforded her to earn an honest penny. It is the system I attack, a system which permits ignorance and superficiality to strut unhindered throughout the land. This indifference to high requirements is met with in nearly all branches of industry and learning. The days of apprenticeship have unfortunately passed. Would that they would soon return and with them the feeling of security and of labor honestly performed. In not all cases is the loss of the child's eyes due to the attendant midwife; often ignorance and penury of the parents is the promoting cause. Frequently they will not listen to the nurse, but will insist upon the use of home remedies, or anxious to save the doctor's

fee defer calling him until the chances of curing the disease and saving the eyes have passed. Sometimes, although I am happy to say rarely, the physician himself is to blame in not calling to his assistance the aid of an expert. How can we save the innocent child from the dangers which threaten it at the very outset of its career? Or, as Dr. Howe in his address, read at the forty-fourth annual meeting of the AMERICAN MEDICAL ASSOCIATION, says: "What means can be adopted to bring these children as soon as possible to the notice of a competent physician? Education of the laity is useless; urging the nurses, professional or others, is equally insufficient. It remains only to place the responsibility at once where it belongs by imposing upon such persons a severe penalty. The surest and best means of accomplishing this is undoubtedly by legislation."

Again, he says: "A question might arise as to what advantage it is to oblige nurses and midwives to report a disease of which a certain class of so-called doctors are almost as ignorant as the nurses themselves. The answer to this is threefold:

"1. The nurse is made to appreciate her responsibility, not only in that case, but in others, and to know that the condition indicated by redness and discharge is not anything to be trifled with.

"2. The parents also become alarmed when they know the disease is sufficiently serious to be the subject of special legislation, so that in choosing a practitioner they select with more than ordinary care. Finally, as for the physician himself, if he accepts the case he feels that he must understand it thoroughly, and he will be apt to look it up with considerable care in text-books, and treat it intelligently. Above all, if he fails to do that, the parents have a responsible individual against whom they can with perfect justice enter a suit for malpractice, and if he has proved himself incompetent he not only suffers the penalty which a law has provided for him, but one such case would be an example to him and to other practitioners in the community in which it occurred."

The older European countries have long ago recognized the seriousness of ophthalmia of the new-born and have adopted measures which have borne bountiful fruit. Switzerland, as early as 1865, made it obligatory on the part of the nurse to call the parent's attention to the necessity of calling in a physician in case ophthalmia made its appearance. If the parents refuse, it is her duty to immediately inform the authorities. In that country, parents are forced to meet their obligations to their innocent children. When parents are so ignorant that they know not how to provide for their offspring, the State should be given authority to supply the brain material they lack. If the child becomes blind it is a burden to society, and society has the same right individuals have, to enforce the first law of nature, and that is self-protection. The working of this law in Switzerland is exemplified by the statement of Professor Horner, made some years ago, to the fact that not a single case of blindness due to ophthalmia of the newborn had applied for admission in the blind asylum of Zurich since 1865. In Havre, France, every case of birth must be immediately registered at the city hall and the parents are handed or sent a small pamphlet informing them of the dangers of the disease we are discussing, and containing a brief summary of the methods to be enforced for the prevention and cure of this disease. Other communities of France take still greater pains to imbue the public with their humanitarian ideas. When applicants for matrimony receive a license they are at the same time presented with a pamphlet similar to the one just referred to. These references will indicate to you the importance European nations attach to this subject. Prussia, Bavaria, Saxony, Wurtemburg, Austria, France, and other countries have, years ago, recognized the value of prophylactic measures and have, through proper legislation, bettered the condition of mankind and saved the State millions upon millions of dollars. What have we done in America in this regard? We did not profit by the experience of older nations until 1890. Twenty-five years after the little republic of Switzerland enacted its law, the great State of New York passed through both houses of the Legislature an Act for the Prevention of Blindness, which reads as follows:

SECTION 1.—Should any midwife or nurse having charge of an infant in this State, notice that one or both eyes of such infant are inflamed or reddened at any time within two weeks after its birth, it shall be the duty of such midwife or nurse having charge of such infant, to report the fact in writing, within six hours, to the Health Officer or some legally qualified practitioner of medicine of the city, town or district, in which the parents of the infant reside.

SEC. 2.—Any failure to comply with the provisions of this act, shall be punishable by a fine not to exceed one hundred dollars, or imprisonment not to exceed six months or both.

SEC. 3.—This act shall take effect on the first of September, eighteen hundred and ninety.

Maine followed suit in 1891, and omitted in its law the word, *notice*, in Section 1, in order to defeat any evasion of the spirit of the law which the word, notice, might give rise to.

Last year, in 1893, the State of Rhode Island also came into the line of States who have an eye to the welfare of its citizens. Maryland only lately, a few months ago if I am correctly informed, adopted the measures we hope to enact at the next meeting of the Legislature. The attempt was made two years ago but failed. I have in my hands a copy of the bill presented in February, 1893. It reads as follows:

28th Assembly. SENATE—No. 140. February, 1893.

A BILL

For an Act for the Prevention of Blindness.

SECTION 1.—Be it enacted by the People of the State of Illinois represented in the General Assembly, Should any accoucheur, midwife or nurse having charge of an infant in this State notice that one or both eyes of such infant are inflamed or reddened at any time within two weeks after its birth, it shall be the duty of such accoucheur, midwife or nurse, so having charge of such infant to report the fact in writing within six hours to the Health Officer of the city, town, village, district or precinct or some legally qualified available practitioner of medicine.

SEC. 2.—Any failure to comply with the provisions of this act shall be punished by a fine not to exceed one hundred dollars, or imprisonment in the county jail not to exceed six months, or both.

SEC. 3.—It shall be the duty of the State's Attorney of the county in which the parents of such infant reside, to institute and conduct such prosecutions in the name of the people of the State of Illinois upon complaint made to him by any person interested.

The bill must not be ignored a second time. The great State of Illinois which has been the champion of so many worthy enterprises can not afford to disgrace itself in the eyes of the civilized world.

There is no political question at issue here; it should appeal to the democrat as well as to the republican; to the populist as well as to the prohibitionist. Possibly it will find especial favor with the lat-

ter, because it is a prohibitive measure. There is no money in it for the doctor, because no physician exists who is not willing at all times to answer the call of charity. And if the parents live in larger cities, their babe can always demand the service of the county physician or others engaged in hospitals and dispensaries. The midwife is not affected by the contemplated law, at least not a in a monetary way. It is entirely and absolutely humanitarian in its effect. Nobody but the child and society are to derive profit through its passage.

Let me call your attention to an argument for its passage which will appeal to many. If one-third of the blindness in this country which is due to blennorrhea neonatorum could have been prevented, we would now count among our normal wage-earners 17,000 more individuals. Suppose the daily earning of each amounted to $2 per day or $600 per year, for the entire number the sum total would be $10,200,000. In other words the country loses $10,200,000 yearly by the affliction of 17,000 citizens, and the country would also save one-third the amount now expended for their maintenance. I am not able to describe the happiness, the untold pleasures and joys these 17,000 would experience if their vision were restored.

You, as physicians, assembled here, must utilize your knowledge of a noble science by spreading useful information among the people at large. You know that "an ounce of prevention is worth more than a pound of cure." You know that the science of hygiene has made enormous progress during the last twenty years. You know that we are now able to resist the inroads of epidemics and many contagious diseases. By your teachings and your influence in the community you can do much to popularize this one branch of hygiene. You, citizens, by the power of the ballot can send to the assembly halls such representatives as will carry out the duties you impose upon them. You, legislators and senators, if you are broad-minded and abreast of the times, if you are willing to study and improve social conditions, will not fail at the next meeting of our legislative body to pass an Act for the Prevention of Blindness.

NEEDED SANITARY LEGISLATION.

Read before the Illinois State Board of Health Auxiliary Association at Springfield, Ill., Nov. 13, 1894.

BY ARTHUR R REYNOLDS, M.D.
HEALTH COMMISSIONER OF CHICAGO.

In offering these remarks as to needed legislation in the interests of the public health, I follow some indications suggested as much by observation in my practice as by experience in my official position. In Chicago, where is concentrated more than one-third of the population of the State of Illinois, many of the defects and inadequacies of existing health laws are more apparent than in smaller communities; evils that are scarcely felt in the rural districts, and only slightly in smaller municipalities, strongly impress themselves upon us.

I shall, however, confine myself to a few subjects in regard to which it seems to me some general legislation, applicable to the whole State, is needed or would, at least, be advisable. Even if the necessity therefor seems the greater in such a center of population as Chicago and is hardly felt in many other localities, it does not follow that these latter would not be greatly benefited by a reform in some particulars.

VITAL STATISTICS.

Among the more important of these subjects is the question of vital statistics. For many reasons the desirability of a correct registration of deaths and their causes and of births is obvious and, to some extent, has been recognized. Illinois has in its statutes certain provisions for the securing of reports of births and deaths; but in practice these are far from being satisfactorily obeyed.

In the city of Chicago and in other Illinois towns of considerable size, deaths are probably more fully reported than they are in the State generally, and the same may, presumably, be said as to the registration of births. The completeness of the latter, however, is not so easily guaranteed, and evasions of the law are undoubtedly more numerous than in the case of deaths. The causes of this defect are recognized in the legislation of some States where the registration is more accurate and elaborate than with us, and where it may be considered a measurable success; for example, in Connecticut—one of the few States of the Union whose statistics are quoted as of some value in this respect. There, no penalty is imposed upon the physician who fails to report a death, for the reason that no burial or disposal of a body can take place without the certificate of the attending physician or that of the official medical examiner. A penalty is, however, attached to the failure to report a birth within a certain specified time while, on the other hand, a small fee is paid by the town for every such report. The town clerk is the registrar, and this insures a fairly correct return in the rural districts, since the territory is usually small, the population not dense and the concealment of a birth hardly a possibility.

Under our system of deputizing this duty to the county clerks, without even a nominal compensation to the reporting physician or midwife, there is no possibility of so immediate an oversight, and the chances for defects in the records are multiplied. There is no doubt that births go unreported to a very large extent in all parts of the State, and this is also true as to deaths, except in the cities and towns which enforce the burial permit ordinance of the State Board of Health or its equivalent.

The advantages and needs of accurate birth registration are daily demonstrated in the experience of the Health Department of the city of Chicago; questions are constantly arising which can not always be answered for the lack of it. This is not a matter of merely scientific interest; it is a practical one, and I think it should be impressed upon our legislators that what we ask in this direction is not solely in the interests of State medicine or of sanitary administration. As a matter of fact, while these interests are of importance to us, the full and authentic record of births is of greater and growing importance to the public.

There is hardly a relation in life, from the cradle to the grave, in which such a record may not prove to be of the greatest value. For example, in the matter of descent; in the relations of guardians and wards; in the disabilities of minors; in the administration of estates; the settlement of insurance and pensions; the requirements of foreign countries in matters of residence, marriage and legacies; in marriage in our own country; in voting and in jury and

militia service; in the right to admission and practice in the professions and to many public offices; in the enforcement of laws relating to education and to child labor, as well as to various matters in the criminal code—the irresponsibility of children under 10 for crime or misdemeanor, the determination of the "age of consent," etc. As the country becomes more densely settled and the struggle for existence sharper, many of these matters, which have hitherto been of minor significance, will take on a deeper meaning and acquire greater importance.

To illustrate some of these points I may cite an instance or two under my own observation as Commissioner of Health. A German woman, who had recently lost her husband, applied at the office for a certificate of the birth of one of her children; her brother in Breslau, also recently deceased, had left her youngest child, named after the uncle, a remembrance in his will. A certificate of the child's birth was necessary. Records of births are not kept in the Health Department, but in the office of the county clerk to which the woman was directed. Fortunately, the birth had been recorded and a certificate of the record, duly attested by the German consul, was prepared, forwarded to Breslau and in due time the poor woman received the amount of the legacy, $360—no doubt a godsend to her. In another case a Frenchman applied for similar evidence of a birth several years previously—exact date not known; the first search proved fruitless, and the man then endeavored to find the midwife who had attended, but she had removed to Kankakee soon after the birth and had been dead two years. Another application and search unearthed a volume of records antedating the present Registrar's term and the record was found. Other cases have come to my knowledge in which the record of birth had been neglected and other evidence had to be procured; protracted delay was caused and some of these cases are not yet settled, because of inability to comply with the legal requirements as to proof of birth. The United States pension office is especially strict as to this proof in the case of a pensioner's children—payments to whom cease at 16 years of age, which makes the date of birth important.

It is true that in this country the "best attainable evidence" is accepted in the absence of the official record. But in foreign countries they are much more exacting than we are as to the "best attainable evidence," and to obtain such evidence, outside the official records, entails delay, labor and expense.

The best evidence, the most accessible and the most uniformly accepted, is that furnished by the registry of birth in the records of the officer legally authorized to make and keep such records. Dr. Neely, the Registrar of Vital Statistics for Cook County, tells me he furnishes an average of about one thousand certificates a year based upon his records, and these certificates are final and conclusive as to the facts. But a very large number of applications for these certificates can not be supplied because the birth was not recorded and other evidence must be hunted up.

Efforts to secure the registration of births in this State have thus far met with very little success. Thus, in the Report on the Vital Statistics of Illinois for 1886—which I believe is the latest on the subject published by the State Board of Health—the birth-rate for the whole State figures out, according to the tables, only 17 per 1,000 and it was only 25 per 1,000 for Cook County and 31 for Chicago.

I may be allowed to dwell a little in detail upon Cook County since I am more familiar with it than with any other county of the State, and also because its vital statistics strikingly illustrate the defective birth registration outside the larger cities.

In 1886 the population of Cook County—assuming it to have been the mean of the figures of the Federal census of 1880 and of that of 1890—was 899,700, and the births registered in the county clerk's office numbered 22,779—a birthrate of 25 for every 1,000 of the population. (For convenience I use generally the nearest full figures, omitting the decimals; the exact figures of the birthrate just cited would be 25.31, but 25 is near enough for practical purposes; if it were 26.60 we should call it 26). The birthrate for the whole county, Chicago included, was as I have just said, 25 for every 1,000. But 703,817 of the total population resided within the Chicago city limits, and of the total 22,779 all but 940, or 21,839, belonged to Chicago—making the birthrate of the city for 1886, 31 for every 1,000, while that of the rest of the county was less than half of 1 for every 1,000.

Although this birthrate for the city was undoubtedly too low it apparently fell off still more in the census year 1890. For that year the population of the county was 1,191,922 (United States census) and the number of births registered was 24,217, giving a birth rate of a fraction less than 13 per 1,000. The population of the city was 1,008,576 and the registered births 23,219—a rate of 23 per 1,000 as against 31 per 1,000 in 1886. In the rest of the county, with a population of 183,346, the number of births registered was 998—a gain of nearly 30 per cent. over 1886, as compared with the population, but still giving the absurd birthrate of less than 1 in 1,000.

It should be explained that the apparent loss of population in the rest of the county outside of Chicago—195,900 in 1886, and only 183,346 four years later, is due to the fact that considerable territory was annexed to Chicago during the period. The population was not lost; it was only transferred to Chicago. This transfer unquestionably had much to do with the apparent reduction of the Chicago birthrate, since it is not likely that the mere change of boundary lines effected any change in the customs of the doctors and midwives or of the people; if they failed to report births before, they would be apt to continue to do so after annexation, at least for a time. As the area thus annexed embraced nearly 140 square miles with a population in 1890 of more than 250,000 of those who, in 1886, returned births at a rate of less than one half of 1 per 1,000, this fact is quite sufficient to account for the apparent falling off in the Chicago rate in 1890.

Dr. Neely tells me that in his opinion about 40 per cent. of the births in the whole county—Chicago included—are not reported. On this estimate of deficiency the birthrate would be about 34 per 1,000 for the county in 1890. But this is assuredly too low. Dr. John S. Billings fixes the true birthrate of the whole country at 36 per 1,000, and there is no reason to believe that the mothers of the great State of Illinois fall below the general average of mothers in other States.

Dr. Neely is probably more nearly correct when he estimates the deficiency in the county outside of Chicago at 75 per cent. which would make the Chi-

cago deficiency that much proportionately less. If we deduct this excess of deficiency from the Chicago returns, it would enable us to fix the true birthrate of the city at 38.7 per 1,000. When we take into consideration the fact that the average birthrate of a number of representative foreign cities, including those of Great Britain, Germany, Russia and other continental countries, is a little more than 39 per 1,000; that the birthrate of Moscow is 41.5, of Berlin 42.6, of Alexandria in Egypt 45, and of Montreal 47.6 per 1,000; and that Dr. Tracy, Registrar of Vital Statistics for New York City, basing his estimate on the marriage ratio, fixes the birthrate of that city at nearly 38 per 1,000, it will be seen that Dr. Neely's long experience and observation have enabled him to approximate very closely to the standard of deficiency in the returns.

The composite of the foreign cities referred to may be taken as fairly representative of the cosmopolitan character of the population of Chicago, and there is no obvious reason why the Chicago birthrate should not be at least as high as their average, when we take into account the virile character of its population, the large proportion of the nubile age period and the conditions of living—comfort, food, habitations, clothing, etc.

Let me return for a moment to the contrast between the birth returns of a large city and those of the rural districts as illustrated in Chicago and Cook County. The rates per thousand have already shown this in the mass, but Dr. Neely tells me there are localities in the county, outside of the city, in which, according to his records, there can be no children living under 8 years of age, unless they have been brought in after birth; even in the town of Evanston, with 12,000 population, there has been no baby born to his official knowledge within the past three years—if we exclude the volunteer statement of a woman who recently visited the Registrar's office to secure the record of the births of her four children in that seat of learning and abode of the virtues.

What is true of Cook County is true, also, of the other counties of the State—differing only in degree. Thus, referring again to the 1886 tables of the State Board of Health, we find that Jersey, Pulaski, Putnam, Stark and Wayne Counties reported 60 births or less in each county, which would indicate about 4 births to every 1,000 of population. In Wayne County, according to this report, they have only two babies and a little piece of one every year among every thousand people living in that otherwise fertile and prolific region.

On the other hand, in some counties, such as Adams, Kane, LaSalle, McLean, Madison, Peoria, St. Clair, Sangamon and Will, which contain large towns and are pretty well settled, a much better proportion is reported. This group had, in the year of the report, 1886, an aggregate of 546,000 population and returned 7,629 births, giving a rate of 14 per 1,000. In St. Clair County the rate was 19; in McLean, 18; in LaSalle, 16; in Kane, 16; in Adams, 14; and in Peoria 13 per 1,000. Only in Madison, where the rate was 11, in Sangamon with a rate of 10, and in Will with a rate of only 7 per 1,000, did the returns from this group fall below those of Cook, in 1890, when it was less than 13.

If we were to take these figures as representing the actual facts we should have to look forward to the speedy extinction of our rural population, the stock to which we look to make up for the degenerative influences of urban life and tendencies. The natural and inevitable interpretation of these figures is that applied to the boy's historic conundrum,—"they haven't the truth in them."

What is the use of depending for accurate statistics of births on a penalty applied only to the physician for non-reporting them, when in some sections half, and in all regions an appreciable proportion of them, never come under his professional observation? The only way to make the penalty effective would be to apply it to the parents and to the householders where the birth occurs, and to make it still more effective in the rural districts the first and direct registration should be one of the duties of the town clerk or supervisor, he to report to the county clerk, or directly to the State Board of Health, thus securing a narrowed responsibility and a more practicable supervision as well as facilitating the detection and location of errors. Some such provisions as these have often been advocated by the State Board of Health but have not yet become laws.

In the registration of deaths the results are much more satisfactory. In one of the recent reports of the State Board of Health it is estimated that 80 per cent. of all physicians in the State now report deaths and their causes, which would imply that at least 80 per cent. of the total deaths in the State are recorded. In towns and cities where the burial permit ordinance is in force, substantially all deaths are accounted for, and the only suggestions of amendment in the registration of deaths and their causes which I have to offer are: 1, the enactment of a law extending the provisions of this ordinance to all cemeteries and burial places throughout the State; 2, that such law should require that the certificate of the cause of death, on which the permit is based, should be examined by a medical man competent to judge of the sufficiency of the cause specified; and, lastly, the adoption of a uniform classification and nomenclature of the causes of death.

With these amendments the medical profession, health officers and the public at large would, in a short time, be able to determine whether a given deathrate in a community was excessive or not, and what disease or diseases caused such excess. With this knowledge the health officer could intelligently investigate the causes and if found to be due to insanitary conditions it would be more easy to enlist the interest and coöperation of the public to secure their correction. It is not enough to preach sanitation in the abstract—to talk about the importance of good drainage, pure water, ventilation and the rest of it. To get the public to understand these matters we must be able to give them object lessons, to furnish facts and figures in the same way we would do in any other business in which we desired their attention and interest. When we can put our fingers on an excess of deaths from consumption, or typhoid fever, or diphtheria, or among infants and children in a given locality, as compared with other places, and show that the excess is caused by defective drainage, or polluted water, or imperfect or improper disposal of filth, or a bad milk supply, we will have gone far toward securing a correction of the defects and evils, and thus reducing the deathrate—which means protecting both the health and the pockets of the people.

To do this, we must have as nearly perfect a regis-

tration of deaths and their causes as possible—a system covering the whole State and a classification and nomenclature uniform in every locality.

CONTAGIOUS DISEASES.

I confess that I am somewhat at a loss what to say, or rather what to recommend—there is so much that could be said—on the subject of the notification of contagious diseases. It is of the first importance that the health officer should be promptly informed of the occurrence of any disease that is liable to spread by contagion, or whose extension may be prevented by sanitary measures. Without such information, cases of contagious disease may exist uncontrolled until they have sown the seeds of an epidemic; when, if the earliest cases were brought to the attention of the health officer, the outbreak might be limited to them or to those already exposed. Where such notification is made, there is overwhelming evidence of the efficiency of recognized measures of restriction and suppression, in averting epidemics and in confining cases of contagious disease to those first attacked or to the premises first infected. That the suppression of such information vastly increases the difficulties of the health officer is well known to all of us, but most seriously to those who are called on to administer the sanitary affairs of large communities, where it is a physical impossibility to have personal and direct cognizance of every one who is sick and the character of the sickness. And yet the health officer—whose first information of the existence of a contagious disease is, only too frequently, the receipt of a certificate of death from such disease—is held responsible by the press and the public for every epidemic outbreak.

I do not mean to say that this is not to some extent justifiable. I suppose that is what the health officer is for—to prevent epidemics and to reduce the volume of preventable sickness and the number of premature deaths. But we should not be asked to make bricks without straw, nor to perform the impossible—for that is what it amounts to when we are expected to prevent an epidemic, while the baser elements of the community conspire to suppress the knowledge of cases until these have multiplied so much that their concealment is no longer possible, and then the outbreak is beyond speedy control.

There is nothing, as I understand, in the statutes requiring physicians to give notice of cases of contagious disease in their practice. It is true that, under the authority conferred on the State Board of Health in the second section of the Act of 1877, —"to make such rules and regulations . . . . as they may from time to time deem necessary for the preservation or improvement of public health"—the Board has promulgated its School Vaccination Orders and its Rules and Regulations for the Prevention and Suppression of the Epidemic and Malignant Diseases, which rules and regulations require physicians to give such notice and which, we are told by the Board, "have the weight and authority of law." That is to say, they have the weight and authority of the law on which they are based but no more; and as there is no penalty provided in that law for its neglect or violation, the notification of cases and enforcement of the rules and regulations depend on the sense of duty and the personal influence of the health officer—his tact, energy, courage and ability to persuade the people of his community to help him to protect them from contagion and infection, or at least to allow him to do so.

In some cities and towns there are ordinances requiring attending physicians to report to the health authorities all cases of these diseases occurring in their practice, and penalties are provided for neglect to report. But neither are such ordinances effective in securing the necessary notification. In my report for 1893 I have touched upon this subject in the following passage:

"Section 2029, of the Municipal Code of Chicago, directs that 'every physician shall report to the Commissioner of Health, in writing, every person having a contagious or infectious disease that he has prescribed for or attended for the first time since having such disease, during any part of the preceding twenty-four hours.' The object of this requirement is, obviously, to secure prompt notification of the existence of contagious or infectious diseases, to the end that the Department may take the necessary action to prevent any spread of contagion or infection, and to remedy any conditions upon which such diseases may depend.

"But it is a requirement directly in the interest of the public, and not at all, or only remotely, in the interest of the physician, who is called upon to fill out a blank with date, disease, location of case by number, street and ward, name of patient, age, nativity, color, sex, date of attack, length of time in the city, his own name and address, and a statement as to whether the patient attends a school or kindergarten. He is not only required to do this without compensation for the time spent in ascertaining facts of personal and social history, etc., that have no bearing on his treatment of the case—with which alone he is concerned—but he frequently incurs the hostility of the family and friends, who object to the publicity which follows the report, and thereby suffers in his practice.

"That there should be some opposition to the requirement is only natural, and it can not be said to be unreasonable; the Commissioner has, therefore, modified the previous practice of the Department, which has been to prosecute physicians failing to comply. But in order to secure without friction the information so necessary to the usefulness of the Department and to the public welfare, the following appeal to the profession was made:

CITY OF CHICAGO, DEPARTMENT OF HEALTH.

May 16, 1893.

Dear Doctor:—As Commissioner of Health, I realize that the only persons in the community who give intelligent and systematic attention to the prevention of disease are the medical practitioners. Physicians devote from one-eighth to one-third of their time, their strength and their talent to charity, in caring for those who are unable to pay, and I sympathize with them when a law requires from them a service without remuneration, in reporting to the Health Department all contagious diseases occurring in their practice. Being unable to offer any remedy at present, I must appeal to the self-sacrificial spirit of the profession to be faithful in this particular, and to aid in the important work of isolating all such cases, and as far as possible, destroying the germs of infection.

In contagious diseases where warning cards are posted, the Department will lend every aid possible as to their prompt removal, when the physician in attendance guarantees that all danger of contagion is passed.

In addition to reporting the usual contagious diseases, I

desire you to report cases of typhoid fever, so that our inspectors can investigate the sanitary surroundings. Cards will not be posted in typhoid fever.

If I can receive the needed aid from the medical profession, this Department of the city government will be enabled to give to the profession and the public important facts concerning the large mortality from diseases that are, in a great measure, preventable.

ARTHUR R. REYNOLDS, M.D.,
Commissioner of Health.

Before occupying my present position I was engaged in active practice, and I know from experience both sides of this question and appreciate its difficulties. It is argued that the physician—in the interest of the public welfare—should perform this labor without compensation and incur the risks of the odium which attaches to the informer in any shape, because "he holds a license to practice medicine from the State, which, in a measure, protects him from unlawful competition." The lawyer holds a similar license and is similarly protected from unlawful competition. But what would be said of the proposition to enact a law or ordinance requiring that every lawyer—in the interest of the public welfare—shall report to the Superintendent of Police, in writing, every criminal that he has advised in his professional capacity within twenty-four hours after having given such advice, under penalty of a fine of $10 for each and every failure to so report? The one proposition is as reasonable and defensible as the other. The ordinance should either be amended so that the physician might receive proper compensation for his time and labor in making these reports; or it should be repealed, so that the profession might be relieved of the constructive charge that many of its members are chronic violators and defiers of the law.

I see no good reason why the householder, in whose family or upon whose premises a case of the dangerous contagious diseases occurs, should not be required to make this report. The notification is in his interest and in that of his neighbors, and it seems only common justice that the responsibility should be placed where the benefit accrues.

This is a subject to which I hope the delegates to the Convention will give their serious consideration.

NEEDED LEGISLATION FOR COUNTY CHARITIES.

I shall touch briefly on only two other points that have occurred to me. And first concerning the legislation which seems necessary for a decent, humane and economical administration of our county charities.

From the various biennial reports of our State Board of Charities, and from some of the annuals of the State Board of Health, a record could be compiled of mismanagement, wasteful and fraudulent expenditure, of cruelties, abuses and scandals in the county treatment of paupers and those most pitiable of God's creatures—the indigent insane. I speak now more particularly of Cook County, whereof I know personally; but, according to these reports, similar conditions exist, only in lesser degree, in many other parts of the State. Cook County maintains a hospital for the insane, second in point of magnitude to but one of the State institutions for similar purposes and ranking, in that respect, with the larger asylums of the whole country. If these reports referred to be true, its history, from its inception, has been a series of scandals covering every manner of corrupt jobs and jobberies in construction, repairs and maintenance and in the purchase of supplies of every description; these scandals embracing medical and surgical incompetence, brutality of nurses and attendants, and immoralities of employés. The cause is not far to seek. As has been repeatedly pointed out by investigating committees, by State officers, and by the medical profession, it is the system which is at fault. It is a system which has set at naught the best efforts of the few competent and self-sacrificing individuals who have, from time to time, been connected with the institution and who have sought in vain to correct its abuses and to carry out reforms. The county poor-house, the insane asylum and the county hospital are all under the immediate control of the board of county commissioners. If the commissioners were of the best material in the community—as they sometimes are—the term of office is too short (it is now but two years and recently was only one year) to enable a board, so frequently changed, to effect any reform or to establish the principles upon which the administration of the county institutions should be conducted.

The remedy for these abuses would seem to lie in legislation, vesting the supervision and control of such charities in a board of trustees, appointed by the courts, or by the Governor on the recommendation of the courts, or in any other manner which should secure a representative non-political body of citizens, recognized as interested and versed in charitable and penological administration—the functions of the county commissioners to be limited to the fiscal affairs of the institutions, the making of appropriations, the auditing of accounts, fixing of salaries, etc., in the same manner as they are now related to the coroner's and other county offices. It is needless to say that the composition of this board should be continuous and permanent, the term of appointment long, and the yearly changes limited in number, so as to profit by the accumulated experience of members.

While I have treated specifically of the needs of Cook County such legislation would be applicable to the whole State, and in this connection the Wisconsin system of county provision for the insane may be profitably considered. In that State, I understand that insane asylums of a certain capacity may be established by any county or by two or more counties acting jointly, and receive a certain proportion of their support from the State. They are under the supervision of a board of trustees appointed in part by the county board and in part by the Governor; there is a medical superintendent in charge, and the institution is subject to direct State oversight, either through the State Board of Charities or the Lunacy Commission. Under a similar provision in this State, such asylums might be established by the larger counties or those containing the larger centers of population to which the waifs and public charges naturally gravitate, and which now are, in fact, bearing the burdens shirked by smaller communities. They would not be so expensive to maintain as the present institutions, while in every other respect they would certainly be far more desirable

It should be said that the strictures upon the management of the Cook County insane asylum and the poor farm do not apply in the same degree to the county hospital—thanks to the influence exerted by

the medical profession of the city and county through the medical and surgical staffs of that institution. There is, however, great room for improvement even in the hospital management; but I do not feel sure of the remedy other than through the creation of a permanent responsible board of trustees to supersede the control of its administration by a frequently changing political body.

THE CORONER SYSTEM.

As to my final point, it may be aptly noted that New York has now an opportunity of getting rid of her antiquated coroner system which, like our own, is a survival of the old English form when the coroner or "crowner" was, as the name implies, a royal officer, with many and incongruous functions. Efforts to abolish "crowner's quest law" in that State have been hitherto frustrated by its recognition in the constitution. The amendments to that instrument which were adopted at the recent election include one which strikes out all reference to the office and the officer, and there is little doubt that the forthcoming session of the General Assembly of that State will enact legislation divorcing the medical functions of the office from its other uses—political or what not.

The duties of the coroner as an inquisitor into the causes of death, where death is the result of violence or where there is reason to suspect that death is due to other than natural causes, demand the qualifications of an expert anatomist, pathologist and toxicologist; while his other functions require an expert knowledge of law—a combination which may be found in one and the same person about as often as one meets with a white blackbird. Judging from the Report of Coroners' Inquests for 1885, in the Eighth Annual of the State Board of Health, there was once such an ideal coroner in Illinois—Dr. Alexander Woods, of St. Clair County, and there may have been others; but none of them seems to have been able to secure any needed changes in the legislation concerning this office.

It is not necessary to dwell on the defects and abuses of the present system. The incumbent is frequently neither physician nor lawyer; too often only a cheap politician, readily approachable by employers and corporations—railroad, mining and other—seeking to evade responsibility for deaths due to their negligence. It is a fortunate chance and not a necessary result of the system when the office is as acceptably filled, both as to coroner and coroner's physician, as it is at present in Cook County and, I have no doubt, in other counties of the State. But even where the integrity of the elective coroner and his general intelligence are admitted, he is handicapped in many ways under the present system. The average coroner's jury is proverbially ignorant—a facile tool for any unscrupulous limb-o'-the-law; and its verdict has without doubt allowed many a criminal to go unwhipt of justice, or defrauded the widow and orphan of righteous compensation for the death of the bread-winner. Then, too, cases often occur where prolonged and costly criminal trials ending, not unfrequently in a miscarriage of justice, could have been avoided had the inquest been conducted and the autopsy performed with the necessary skill and intelligence.

To sum up in a single sentence: The present coroner system in this State does not adequately defend the interests of the poorer classes in particular, as against negligence, nor properly protect the public in general, as against crime.

I think this Convention should not adjourn until it has provided some means, either through a committee or otherwise, by which a suitable bill may be presented to the next Legislature, framed substantially on the lines of the Massachusetts Medical Examiner law of 1877 and its subsequent amendments. It is possible that some defects have been disclosed in the practical operation of the Massachusetts law and that there are improvements in the analogous legislation of Connecticut and New Jersey, as well as in the proposed New York bill. But Dr. Samuel W. Abbott, the able Secretary of the Massachusetts State Board of Health, writing in 1893, says the system "has now been in successful operation nearly sixteen years, and it is safe to say that no return to the coroner system will ever be made in Massachusetts. . . . . It is a sufficient comment upon this law that more than eighteen thousand cases of sudden, suspicious and violent deaths have been investigated under its authority in a far more satisfactory, intelligent and economical manner than could have been possible under the old *régime*."

One fact alone should have great weight with our legislators, as it undoubtedly will with the tax-paying public, to-wit, that a careful comparison of the cost of the coroner system in Massachusetts during the three years prior to the Act of 1877, with the cost of the Medical Examiner system during the next three years showed a decided reduction in expenses, and recent statistics show a lessening cost of about 2 per cent. per annum for each case under the new system. The tax-payer at least will appreciate this.

And after all, it is, as I have previously intimated, the tax-payer and the general public who will settle the question of what and how much legislation we shall have. If we can show them that what we ask is really in their interest and for their benefit, and will base our arguments on sound business principles, put forth in plain English, I doubt not that their representatives in the General Assembly will be prompt to embody their wishes in practical, commonsense and efficient legislation for the further protection of the lives and health of the citizens of a State which is destined to be, in the near future, the foremost in the Union.

Is it too much to claim that the work of this Convention here assembled, and of the individual delegates, each in his own locality, may be no insignificant factors in the realization of that destiny?

THE DISEASE OF INEBRIETY.

ITS STUDY FROM THE STANDPOINT OF THE EXPERIENCE OF AMERICAN PHYSICIANS OF EMINENCE WHO HAVE WORKED IN THIS FIELD OF RESEARCH.

BY EDWARD C. MANN, M.D.
NEW YORK CITY.

Dr. Wm. C. Wey, of Elmira, N. Y., the President of the New York State Medical Society in 1871 thus expressed himself in a paper on "Inebriety by Inheritance:" "Latterly, as men of science have more closely interrogated the antecedents of inebriety, it has been found to bear such a striking resemblance to the characteristics of mental disease as to possess

a claim to be regarded as influenced and governed by the same general laws that bear upon the 'art and mystery' of insanity, to use a phrase employed by Dr. Blandford in his recent lecture on that subject. The transmitted tendency to inebriety has been observed by every intelligent physician of experience in the practice of his profession. As individuals are oftentimes unwilling to acknowledge the existence of insanity in the family line, so is the occurrence of inebriety equally concealed or positively denied. The impression is well-nigh universal, that inebriety is a voluntary surrender of the mind and body to the gratifying of sensual indulgence and that a determined effort to reform must of necessity lead to the abandonment of the habit of drinking. This is the belief as well as the language of the temperance lecturer, who holds up the pledge as the sign and seal of redemption from a self-imposed propensity. It is also the stereotyped teaching of the pulpit, which inveighs against inebriety as a crime akin to arson and perjury, which should not be excused or palliated or compromised, but punished by rigid enactments of law. It is the theory of another class that inebriety is simply "inefficiency of the intellectual force," to be charged to weakened will power, which resolution, strength and sincere desire of improvement may at any time elevate into healthy and well ordered exercise.

Higher authority than any mentioned, even the authority of the law, declares the commission of offenses while under the influence of liquor to be properly punishable, because the offender, though rendered temporarily insane by indulgence, voluntarily suffered himself to be brought to that state. In the eye of the law one view is taken of inebriety, and in the judgment of science another. We should consider that at one period the law, not as discriminating as now, assumed the entire custody of the insane, whose restraint and confinement, even in cages and with chains was considered necessary, not for improvement and restoration to mental health, but as a means of punishment and for the protection of society. Pathology, in the day alluded to, laid no claim to correct knowledge of mental maladies. They were grouped under a strong but virtually meaningless expression, "visitation of God." This phrase, while it is to be commended as acknowledging the dignity and attributes of the Creator and Judge of men, served for centuries as a means of begging the question of insanity, precisely as in our day the theory of self-imposed indulgence in alcoholic and other stimulants is stubbornly believed by the people.

The special treatment of the inebriate, through the accessories of hospitals and modern appliances, though no longer new and untried as an experiment, is far from being generally appreciated or understood. This statement applies to the profession in part and to the people at large. It applies to the profession because the study of inebriety as a disease and not as a moral lapse, has been superficially considered. In the all-absorbing duties in which we are engaged from day to day, it is difficult to bring the mind to consider a new and unfamiliar principle in medical science, especially if all our previous mental training, influenced by the traditions of the past, conspires to cast distrust and unbelief on the proposed system. A few in our profession share the impression to which I have referred, of antagonism to the doctrine of restoration of the inebriate through the agencies of isolation and treatment. The question is asked, What do you treat? A habit independent of control; a disordered mind and a perverted will; or a diseased body, whose crowning honor, the brain, is the seat and center of pathologic change? The proper and successful treatment of inebriety includes all these conditions and much besides. The habit of indulgence in stimulants, as we view inebriety, is only the fruit or development of a series of morbid physical phenomena, in which the mind as well as the corporeal structure is implicated. I expect to be understood as referring to confirmed inebriety, whether leading to habitual intemperance or to occasional and prolonged drunkenness.

Inebriety being accepted as a physical disorder, many of whose forms and features are no longer equivocal but well settled and understood, it becomes us to look back on the train of morbid phenomena by which it has been fostered and developed, and endeavor to analyze its near and remote causes. Conspicuously in this connection comes the consideration of inherited tendency, etc.

Dr. Wey says, in speaking of statistical detail: "I would like to dwell upon the influence of nationality in conducing to inebriety, and show the effects of mixed and unmixed races in conspiring to its production. Our population is of such a composite character that this feature of the subject is in itself a vast study. A significant feature in this connection, which I am not prepared to explain, refers to the exemption of the Jews in this country, and perhaps in other countries, from the influences of inebriety. This is not an accidental circumstance; facts appertaining to vital science can never be reckoned accidental. It is doubtless in accordance with some fixed and immutable law, such as illustrates the entire history of that wonderful people. Information so minute, should be obtained in every case of inebriety admitted to public and private institutions for treatment, as it will show the nativity not only of the patient but of his ancestors, as far as that information can be procured. In this manner, after a time, such deductions may be made as will reveal an interesting chapter in the history yet to be compiled of inebriety in the United States. Information of this character may exercise an important influence in ultimate legislation affecting the welfare of the inebriate, when efforts are made to induce State aid in establishing asylums for their cure, and laws are modified or enacted to secure to them additional advantages and protection. Having faith in statistics, I would cause them to tend to the enlightenment of this whole subject with cumulative and effective power.

"I would interrogate facts and indications in one connection after another, so as to compel them to reveal all that can be told of the special bearings of mental, physical and moral agencies on inebriety. This involves a wide range of inquiry. It extends beyond the dogma of inherited tendency and embraces the entire field of physiologic, pathologic and psychologic investigation. The importance of such particular scrutiny is shown, if proof were necessary, in the declaration lately made from a reliable source: 'In America, considerably more than one-half of the adult population use either tea, coffee or tobacco. A majority of the remainder use alcohol in one or more of its various preparations. Most of the small remaining minority are included among the

not inconsiderable number of those who use opium habitually, and few of us can not count on our fingers all the persons we know to be total abstainers from each one of the stimuli we have named.[1]

"The question of the successful treatment of inebriety hinges on the simple fact of *re-formation*—reformation of the mind and will as well as of the corporeal man generally. It requires a nice and delicate, even a minute analysis of the nearly innumerable cases that incline to the production of inebriety, to be able to perfect a system for its radical treatment. It can not be successfully, that is scientifically treated, until it is thoroughly understood. Inebriety in its component parts needs to be so nicely fitted and adjusted, before it can be put together and perfected into a system of scientific proportions, that its sharp angles and obliquities must be toned down and subjected to the proof and trial of unfailing and convincing tests. Less than this, neither the profession nor intelligent people will indorse or accept. This minute and exhaustive investigation of the subject I heartily commend to the specialists before me, whose lives are devoted to its consideration. You will pardon me for speaking thus plainly. I have a desire which is shared by the best men in the profession to witness the history and management of inebriety placed on the footing of scientific truth and accuracy which illustrates the principles and treatment of insanity, This latter position is one of authoritative science.

"May we not trace a parallel between the early and specific treatment of insanity and inebriety, and show that equally favorable results may be expected in the latter infirmity, when subjected to prompt and intelligent oversight and care in a place provided for that purpose? It is waste of time and opportunity, as we have been forced so many times to confess, to treat inebriety as we would treat a self-limited disease, in the seclusion of the patient's home. To be successfully, that is radically reached and overcome, alcoholism or drunkenness must be brought under hospital restraint and supervision in the forming stages of the disease. The truth of this declaration may seem so apparent that it is trite and commonplace to allude to it. And yet, because it is not heeded and observed by inebriates and their friends, the former are held longer under the dominion of alcohol, and are in danger of reaching an irremediable stage of the affection, while the latter become disappointed and discouraged and are disposed to condemn a system which gives so little hope of relief, etc. Inherited inebriety particularly, and acquired inebriety in special instances, which goes on rapidly or slowly to death from ordinary physical disorganization or from self-imposition, does not necessarily, and I speak reverently on the subject, bring the victims within the limits of moral accountability, any more than the acts of those who are clearly and incontestably declared to be wholly insane."

Dr. Willard Parker, of New York, in an address in 1871 on "What Science and the Inebriate Asylums have taught us," spoke as follows: "In the last half of the nineteenth century, the attention of the medical profession has been directed to the inebriate; it has sought to determine his true status, to decide whether he is a moral delinquent or the subject of disease, or both, and if his case, like insanity, be curable. In order to answer the question, nine or ten institutions or asylums, public or private, have been established in five of the States, and for the last thirteen years the case of the inebriate has been studied with scientific care. As it was with the insane, so now it is with the inebriate; the asylum is the school in which knowledge is to be acquired for the enlightenment of the medical profession, the information of the public mind, and for the guidance to a better system of legal enactments upon the subject, with these results: 1, the nature of alcohol has been examined, in order to determine its true character; and 2, its influences upon the animal economy have been studied.

"What, then, is alcohol? Is it food? Food is that which repairs some waste of the system. We can repair that only which exists. New in the human system there are water, fat, starch and sugar, nitrogenous substances, iron, sulphur, phosphorus, animal quinin, as claimed by Bence Jones, sodium, potassium, chlorin, etc.; but no alcohol is found. It has no analogue in the system, hence there is nothing which it can repair, and it can not therefore be ranked as food of any kind, but it is, out and out, a *foreign substance*.

"Is alcohol a poison? I reply, yes; it answers to the description of poison. It possesses an inherent deleterious property, which, when introduced into the system, destroys life, and it has its place with arsenic, prussic acid, opium, etc. Like these, it is to be employed as a medicine and has its true position in works on materia medica. It is, therefore, both a poison and a medicine. In this last capacity it has, like opium or arsenic, its definite characteristics and in some cases as a medicine it is indispensable. But has it no place at the table or in our bills of fare, either in distilled or fermented liquors? In certain cases these are useful, but it is when they are used by the feeble or aged, and then they should be taken as condiments and only *with* the food, and in such measure as not to be felt beyond the stomach. In small quantities, wines, etc., *stimulate*, and if not enough be taken to coagulate the pepsin and the albumen in the food, they in proper cases promote digestion and thus help to repair the system. But whenever more is taken into the stomach with the food than is demanded, it passes into the circulation, disturbs the action of the heart, flushes the face, and confuses the brain. When so much fermented or distilled liquor is taken into the system that the functions of the organism are disturbed, then positive harm has been produced; in one word the system has been so far *poisoned*. An irritation has been set up in place of the desired healthful stimulation of the stomach.

"There are appetites implanted in the system, and when wisely managed they help to keep the system in a healthful condition. They express themselves in hunger and thirst, while the cravings of the system for alcohol, opium, hasheesh, etc., are the result of disease in the organism, more or less marked, depending upon the gravity of the lesion of nerve and tissue. The condition of the inebriate is abnormal; he is in a state of unrest throughout the whole system, and the urgency for relief is so great that the will has not the power to resist. What is denominated appetite, therefore, is a state of suffering dependent upon disease, as in colic or pleurisy, and the craving and demand for relief are beyond the power of the will. These, then, are the effects of alcohol beyond the point where it is useful:

[1] The Nation.

"1. To induce a diseased condition of the nerves, which is manifested by the general symptoms of depraved appetite.

"2. Entering the circulation unchanged, it impairs the vitality of the blood. Careful examinations of the blood have been made, to determine what becomes of alcohol when taken into the system. When more is taken than can be employed as a condiment or tonic, it passes into the blood and circulates in all parts of the body, deranging the action of the heart and capillaries, confusing the brain and impairing the vital force. It has been settled also by science that alcohol undergoes no change in the blood, but that it exists there as a foreign substance, like a mote in the eye. And what is denominated stimulation is irritation; and the excitement caused by the effort to throw off the irritating substance wastes the energy and life of the system. After alcohol has produced disease of the stomach and the depraved appetite it next expends its force upon the neighboring organs, inducing disease of the liver and dropsy or Bright's disease, both of which are fatal to health if not to life. The brain, also, although farther from the stomach, is often diseased in function and at a later period, in structure.

"There are those who boast of the amount they can drink, if the spirit only be *pure*, without suffering from inebriation. Such persons do not understand that alcohol, however pure, is in itself a poison, and that they are in much greater danger than those who complain that when they drink it 'flies to the head.' This last class are more likely to be restrained from the indulgence, when the consequences may be so serious or disgraceful. Not only do special organs become involved through the effects of the poison, but the whole living organism is impaired and life is cut short. It has been demonstrated on all sides, at the forge, in the workshop, in the field, on the march, in the Arctic region and in the torrid zone, in physical and in intellectual labor, that the spirit drinker fails to cope with the temperate man. It has been ascertained that a young man at 20, who is strictly temperate, has before him as his average of life, forty-four years and two months. On the other hand, the young man who poisons his system by drink, can look for an average of life of only fifteen years and six months.

"Lastly, in referring to the action of alcohol, we must not omit to speak of the condition of the offspring of the inebriate. The inheritance is a bad one; a tendency to the disease of the parent is induced, as strong, if not stronger, than that of consumption, cancer or gout. And with this tendency he must wage perpetual war or he becomes a drunkard. The tendency referred to has its origin in the nervous system. The unfortunate children of the inebriate come into the world with a defective organization of the nerves, which ranges from the inherited tendency, through all grades to idiocy.

"Such are some of the effects of alcohol upon man. We have stated that the inebriate asylum is a school in which drunkenness is studied and treated. It is now proved to be a *disease* and to be curable. We have learned that there are different classes of patients, whose condition varies like their family history. There is one class composed of those who had healthy and temperate parents, and who have had the advantages of education. They first began drinking socially, and have indulged more and more frequently, until disease, as manifested by the depraved appetite, is established in the system. This class incurred guilt, or in other words, sinned in the beginning, by violating the laws of the system, just as the over-eater sins against his stomach and suffers from dyspepsia; or the over-worker sins against his brain and induces paralysis or insanity. A large proportion of this class can be cured at an asylum, and the time required for that cure will depend upon the duration of the disease and the amount of organic lesion which exists.

"The second class is made up of those who are descended from a drinking stock. They have inherited a tendency or predisposition, have less guilt to answer for than the first class; are less curable, or if apparently cured, are in more danger of a relapse. With this class an irresistible craving occurs in paroxysms, and if they can be shielded for the time from the means of indulgence, they are safe until the occurrence of another paroxysm. There are nations or large communities with whom this fearful tendency to drink is an inheritance, as we have seen, to the perversion of their whole character.

"The third class is composed mostly of young persons who are depraved in all their instincts, and who do not desire either reformation or improvement. They are not subjects for the ordinary asylum, and in time wise legislation will cause provision to be made for them that the community may be protected against their irresponsibility and lawlessness. Asylums have taught us that inebriety is curable; that the depraved appetite is overcome, as the diseased condition on which it depends is removed, and in many cases the cure is radical and permanent. When this whole subject shall be better understood, it will be a wise provision that the children in our schools be taught the character of alcohol and kindred poisons, that they may learn the danger of indulgence and the wisdom of resisting the first temptation as their only sure protection. Thus in time would grow up a public sentiment which would banish from common use the worst of all scourges of the human race."

Dr. Joseph Parrish, President of the American Association for the Cure of Inebriates, in speaking of intemperance as a disease, said: "The testimony has been so profuse and authoritative on the subject during the past few years that I need not repeat it. I must be allowed, however, to refer to the recent action of the British Medical Association at its meeting in 1875 at Edinburgh, as the latest declaration of a public character that has come to my notice. The subject was introduced by Dr. Alex. Peddie, whose name and distinguished position are recognized here as elsewhere. He has drawn the line so distinctly that I prefer to quote his own language as transmitted to me by a friend who participated in the discussion. Dr. Peddie said, in speaking of that class of inebriates who are popularly recognized as "habitual drunkards."

"'1. They were those who inherited the propensity for drink.

"'2. Those who evinced it as the chief manifestation of some form of cerebral disease.

"'3. Those who were affected with it as the result of injury to the head, severe fever or other wasting bodily ailment, mental shock, heavy grief or reverse of fortune, and, indeed, causes similar to those anteceding some other insanities.

"'4. Those who acquired it through a course of vicious indulgences in stimulants.

"'The distinguishing features of the malady,' continues Dr. Peddie, 'are total loss of self-respect and self-control, under an overwhelming craving for alcoholic drinks, with little or no palatal relish, which must be gratified at any cost, utterly regardless of honor or truth, and in fact unaffected by appeals to reason, self-interest, tears of affection or any suggestions of duty to God or man.'"

Dr. J. P. Boddington also read a paper on the same subject, and said: "That the medical opinion of Great Britain was in favor of legislation providing for the medical care of inebriates." Sir Robert Christison, who has occupied, as you know, the Chairs of Medical Jurisprudence and Materia Medica in the University of Edinburgh, as well as other distinguished positions, spoke at length and said, "that the professors of metaphysics, of moral philosophy, of political economy and of what he considered of more importance, the professor of Scotch law, and the Dean of the Faculty of Advocates, had joined with him and others in a representation to the Home Secretary in favor of Parliamentary action in behalf of this class of persons."

You will be gratified to learn, also, that Dr. Lyon Playfair, so widely and favorably known, participated in this discussion and said, that as a member of the House of Commons, he had gone into the "Committee on Habitual Drunkards" in an extremely doubtful state of mind, his feelings, indeed, being hostile to the proposition to legislate in favor of inebriate asylums, but on listening to the testimony before the Committee and referring especially to the evidence offered by the members of this Association, he "was led to a different conclusion, and signed the Report," which was presented to the Commons in this behalf. The result of this debate was the adoption by acclamation of a resolution, which reads thus:

"That excessive intemperance is, in many cases, a symptom of a special form of insanity which requires special treatment, with a view, first to the recovery of those affected, and second, to the protection and advantage of them, and of society. That in the present state of the law such treatment is not attainable, and that it is desirable that legal provision should be made to render it attainable."

Intemperance is evidently diminishing with the advance of the amenities of civilized life. Like other survivals of the ages of animalism it is gradually disappearing. There are several reasons for this. With the culture of the asthetic tastes—the love of the refined and beautiful—comes the appreciation of these qualities in each other. Men affiliate and combine on the grounds of a common taste, and as the culture of art and refinement in general advances, vulgarity and excess are disallowed; the inferior passions being remanded to their proper places. Religious obligations and the conventional sentiment of refined society, all move side by side with the esthetic qualities, and men grow into moderation and self-control by the civilizing forces which multiply as we advance. This is one reason. Another may be found in a wonderful physical fact, which has its basis in the law of heredity, and by which we are enabled to obtain more positive knowledge concerning the disease we are considering, and act with more intelligence toward preventing it. It is known that that form of drunkenness which is commonly called periodical, but more properly paroxysmal, is almost always the result of a peculiar inherited predisposition. I might quote authority upon authority in confirmation of this now generally accepted doctrine; but the quotation already made from Dr. Peddie is typical of medical sentiment generally, and is sufficient. The point to which I wish to call your attention specially, is that this form of drunkenness has its period of termination, as well as of recurrence. It either discharges itself, or is deflected from its course into a different mode of manifestation. It has its climacteric period also, and I ask my brethren to note this period. In my experience it is somewhere between 40 and 50 years of age, and I believe more people recover from this form of inebriety at this period of life than any other. They recover by the discharge or exhaustion of the propensity to drink. If, however, there is simply a deflection of the impulse, they may degenerate into some form of chronic alcoholism, and in consequence, fail in the offices of progeniture, and thus save the future from the degree of blight that might otherwise be inflicted.

It may be asked, Why has not this law been operative in the past, and why are not its effects visible in the present generation? The answer is, that there can be no doubt we are realizing the effect of it, and that one of the effects is the peculiarity of this particular paroxysmal form of drunkenness. Delirium tremens and *mania-a-potu* were much more common a generation back than now. Indeed, they may almost be said, at this day, to be rare, in comparison with their former frequency. The tendency to them appears to have deviated into what is nowadays called dipsomania, and from this defection there seem to be divergences into the various forms of chronic alcoholism, which, after a while, may so far lose their course and be divested of their characteristics as to be undistinguishable, except in the general features of paralysis, apoplexy, dementia and so on.

I do not know that this feature of the subject has been observed by you, but I can not but believe there is force in it, and I commend it to you as at least worthy of thought and investigation. Let me re-state it: Dipsomania is a comparatively new form of disease, a deviation from *mania-a-potu*, taking a more chronic and obstinate form. It has increased and the former diminished. The tendency of dipsomania is to chronic alcoholism, as manifested in permanent lesions of brain and ganglionic structure, and resulting in incurable nervous disorders. The modification of nervous susceptibility in persons inheriting this tendency, predisposes them when under the influence of liquor, to more positive damage, although it may not appear in such acute and violent forms. If it be admitted that there has been a decided modification of the vice of drunkenness by the improving influence of intelligence, refinement and virtue—and that the criminal view of the subject is being better understood and distinguished from its other aspects, and we have to do with it more as a disease, is there not good reason to hope for better results in the future?

Sanitary boards, as they are constituted in our chief cities, tell us not a little about preventable diseases, and propose various means of prevention, and success seems to attend their efforts in proportion as the people appreciate and apply the recommendations of such boards. When inebriety shall be classified with other diseases, and boards of health and commissioners of hospitals and charities shall act upon this fact, in the same spirit and with the same

efficiency that they do with regard to other disorders, there will doubtless be a corresponding improvement in the habits and lives of the people. Did it ever occur to you that one of the strongest reasons why the people should turn their attention to the disease—aspect of intemperance—is found in the fact that temperance societies, churches, laws, family warnings and all the social and domestic influences that have been brought to bear on the inebriate have failed to accomplish the good that has been expected of them? Surely, if this was a question merely of repentance and reform, the multiplied and influential means of the family, the church, and the pledge—the watchings, the followings, the beseechings, the prayers, the warnings, all would have produced much more fruit than yet has been gathered from these sources.

Can there be such a force in a mere habit, such allurement in a single vice, as to be able to withstand all the earnest and persistent labor that has been organized against it? For it must be remembered that the efforts in this matter have been specific. The counteractions against intemperance have been direct, positive, continued and well-organized. The pulpit, the press, the platform, the school, the family, have each represented organized forces against this evil, and yet the testimony is that it has increased. What a libel this fact would be upon the heart-lore of domestic life, upon the verity and earnestness of Christian doctrine, upon the better instincts of humanity itself, but for the fact that these well-meant and honest efforts have not been directed in the proper line of approach to the evil. A poison that lurks in the blood has no antidote in appeals to the moral sense. A neurosis that inheres in the being can not be driven away by rhetoric. A proclivity that is enfibered with human structure, can not be untwined by argument. These are facts which may not have been admitted, because not thought of, but nevertheless, they are just the facts which have obstructed the progress of what men call the temperance reform. It is said that the well-known John B. Gough declared in a public lecture that out of 500,000 persons who up to that time had signed the total abstinence pledge in America, 300,000 had violated it, and that Dr. Chambers on hearing it exclaimed: "Truly, what an outburst of nature!" While Mr. Gough on this occasion exhibited his candor, it is certain that his distinguished listener gave evidence of his deep knowledge of mankind.

In an address on "The Classification and Treatment of Inebriates," Dr. Parrish said: "I think none of us, who have given careful thought to the specialty we represent, can have failed to observe three classes of inebriates, each of which is capable of an extended and common sub-division, as follows: 1, professional debauchees, whose purposes in life seem to be limited to the gratification of appetites or passions; and who, yielding to such gratification, have not only become confirmed inebriates, but have fallen into other excesses of a more vicious character; 2, those, who without a decided intention to do wrong, and without any abiding purpose to do right, are the victims of their own moral weakness, or of the cupidity or recklessness of others; 3, those who are earnest in their desire to live soberly and righteously, and anxious to avail themselves of every means offered by others for their recovery; who are capable of estimating their danger and possess the courage to confront and antagonize it."

(To be continued.)

TURKISH BATH IN AMERICA.

An Anniversary Address on Baths, Delivered at the Sanitarium Oct. 6, 1894.

BY CHARLES H. SHEPARD, M.D.
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It is with no small measure of gratification that I greet you upon this, the thirtieth anniversary of the opening of the Turkish bath in this country. The old song had it that, "We are living in a grand and awful time!" These words were never more true than they are now. Between 1861, the beginning of our civil war, and 1893, the epoch of the Columbian Exposition, what a revelation the years have brought! The wonderful development of every department of knowledge, of all the resources of the country, have given a continual impetus to every element of progress, and all the refinements of civilization. Pre-eminent among these stands the Turkish bath. It is ennobled by a history which reaches back of records into tradition. During all that time the perfection of the bath was in exact proportion to the civilization of the country in which it was used. Throughout antiquity, moral purity was signified by purification of the body; even baptism is symbolic of the bath. Cleanliness was made a virtue among the pagans, but because great license of manners prevailed at the public baths, many historical Christians condemned cleanliness of person, and taught that the longer one went without washing the fitter one was for the kingdom of heaven. St. Athanasius relates with enthusiasm how St. Anthony, the patriarch of monachism, had never, in extreme old age, been guilty of washing his feet.

In primitive ages, superstition readily centered about thermal springs, as if they were the manifestations of some supernatural power, and through the teachings of their priest physicians, they came to be considered sacred, as though presided over by some particular divinity, and later came temples, erected beside or inclosing the springs. The prevailing habit of thought was to attribute all bodily infirmities to the malign influence of some divinity, so for relief, the people sought the interposition of supernatural power; hence thermal springs were dedicated to some god, principally to Hercules, as the god of strength. The Romans also consecrated their thermal springs to some deity, and their priest physicians introduced a ritual to be observed in making use of the waters. Homer relates that the hot bath was used among the Greeks more than three thousand years ago, and it was in all essentials similar to that now popularly known as the Turkish bath. The baths were common throughout Rome and her colonies, for wherever Rome bore her civilization the bath accompanied her. In time a lavish luxury prevailed in the erection and embellishment of the Roman baths, which increased with the growing wealth of the city. To immortalize themselves the emperors built baths which were the grandest constructions that architectural genius ever created. The Augustan age was an epoch conspicuous for the development of sanitary measures for the promotion of public health; and officers of high dignity were appointed

for the management of the baths. The area embraced by one of these immense establishments was equal to the space included in twenty-five ordinary city blocks, or about one mile in circumference. The largest was constructed by Diocletian, and capable of accommodating 18,000 bathers at one time. The Pantheon, now serving as a church of modern Rome, was originally built as a vestibule to the baths of Agrippa.

Ample opportunities have been afforded for acquiring a thorough knowledge of Roman customs in this respect, notably through the excavations at Pompeii, between the years 1824 and 1825, wherein complete sets of public baths in a good state of preservation, were laid open. In the historical novel, "The Last Days of Pompeii," Glaucus is made to exclaim: "Well! Let us to the baths! Blest be he who invented baths!" "But tell me, Glaucus, are the baths at Rome really so magnificent?" Glaucus turned and recognized Diomed and, suppressing a smile, replied: "Imagine all Pompeii converted into baths, and then you will form some notion of the size of the Imperial Thermæ of Rome, but a notion of the size only. Imagine every entertainment for mind and body, enumerate all the gymnastic games that our fathers have invented, repeat all the books that Italy and Greece have produced, suppose places for these games, admirers for all these works; add to these baths of the vastest size, the most complicated construction; intersperse the whole with gardens, theaters, porticos and schools; suppose in one word, a city of the gods, composed of but palaces and public edifices, and you may form some faint idea of the glories of the great Thermæ of Imperial Rome."

In the reign of Tiberius there were nearly nine hundred public and private baths in Rome alone, while the villas and the homes of the rich were provided with costly bathing apartments. Previous to this time the diseases of civilization were scarcely known among this people, but after the conquests of the Romans extended beyond Greece and over Asia and Africa, sources of unbounded wealth and luxury were opened to them, and the refinements and corruptions of a higher civilization changed the aspects of Roman life. In the seventh century Alexandria rivaled Rome in the splendor of its public edifices as well as in the number of its magnificent baths, of which there were 4,000 when the city was taken by the Moslems. The Turk having a keen relish for all that could minister to tasteful enjoyment, adopted the baths, and it is reported that when the great library was burned the books supplied the baths with fuel for six months.

Sources of the decline of the baths are traced to the establishment of Christianity at Rome, because the baths were looked upon as heathen temples, and the thermal springs being dedicated to heathen deities they were abandoned by the Christians and the use of the waters held to be sinful. The removal of the seat of empire from Rome to Constantinople, which followed the conversion of Constantine, deprived the baths of the imperial patronage necessary to sustain them; and the irruptions of the Northern nations are partly responsible for the destruction of many of the baths. Throughout Western Europe the very knowledge of them was obliterated for some fourteen hundred years, though the baths survived in other lands. At Constantinople the Greeks preserved them, and the Turks, after acquiring that city, soon learned to appreciate them as an invaluable sanitary institution, whence comes the present name, Turkish bath.

Through the energy and perseverance of David Urquhart the Turkish bath was introduced to modern civilization. While a member of the British embassy at Constantinople hé became enamored with Turkish life and customs. Already the author of several books, he then wrote one entitled, "The Pillars of Hercules," in which was embodied a chapter dilating upon the virtues of the Turkish bath, and relating the advantages that would accrue to his own countrymen by the adoption of the bath as a habit. Some years afterward he came in contact with Dr. Richard Barter, who was conducting a water cure in the south of Ireland. Mr. Urquhart gave Dr. Barter his book, the perusal of which convinced the Doctor that it was the one thing needed to make his institution complete, and soon these men constructed the first Turkish bath of modern times at St. Anne's hill, within a mile of Blarney Castle. After that Dr. Barter established several baths in different parts of Ireland, and Mr. Urquhart promoted the erection of a bath in Jermyn Street, London, which is to-day a monument to his ability and foresight. Charles Bartholomew was also an early friend of the bath, and, by Mr. Urquhart's encouragement was instrumental in establishing a number of baths in England. To-day the Turkish bath is an established and popular institution throughout great Britain.

Erasmus Wilson highly indorsed the bath in a book published more than twenty-five years ago. Sir John Fife, Senior Surgeon to the Newcastle Infirmary, introduced the bath to that institution, and edited the *Turkish Bath Manual*, an authority on the bath. Sir Benjamin W. Richardson testified to the importance of the bath, and the broad field that was open to the practitioner in the treatment of disease, particularly of rheumatism. Sir Edwin Chadwick, the greatest sanitarian that England has produced, personally gave me his hearty indorsement of the bath in 1865.

About the year 1860, Christopher Oscanyon, a representative Turk, attempted to introduce the bath in New York City and obtained the support of a number of prominent New Yorkers, but for some reason the enterprise was never developed. Soon after a small hot air bathroom was opened in Boston. It was called a Turkish bath, but never outgrew its original limits and had but a short existence. It was reserved for the home city of Brooklyn to make manifest the possibilities and luxuries of the genuine Turkish bath.

My attention was directed to the bath through the kindness of Samuel R. Wells who, in 1861 was traveling through Great Britain. He forwarded to me a number of pamphlets upon the subject, among them the chapter upon the bath from the "Pillars of Hercules." These immediately aroused my enthusiasm for a Turkish bath. I had long held in favor the hygienic method of treating disease, and this way of accomplishing the result seemed the very perfection of all treatment. With the practical knowledge of the virtues of the bath came a constantly increasing desire to be able to demonstrate to the world the power of the Turkish bath as a remedial agent, as well as the immense benefits to be derived from its adoption as a habit of the people, fully recognizing the fact that its most desirable and useful depart-

ment of service would be that of preventive medicine. In May 1863, I began on a small scale, and under many discouragements from my friends, the construction of the first Turkish bath. Not having any model from which to work, the process was necessarily slow, and much time was consumed in experiments, not alone with the bath itself, but also upon myself, friends and patients, in testing its practical workings. It was not until October 6 of that year that it was opened to the public. On that day but one bather came and he had left his home, without letting his wife know where he had gone. It was not till four days after that four bathers came. One of those I had waylaid in the street and brought in by dint of persuasion. To the credit of the bath, however, it may be said that he and his whole family were frequent bathers thereafter. After an interval of six days two bathers appeared, both ladies. Two days after came one gentleman, and so on, for about a month before there was a uniformity of daily baths.

The first month we gave about 50 baths, the second 100, the third 150, the fourth nearly 200, thus gaining ground by slow degrees. The first year we gave over 2,000 baths, the second year about 4,000, the third year nearly 6,000. About the middle of the fourth year our facilities were increased and we gave over 10,000 baths, the fifth year over 15,000. At present, in spite of the many large baths that have been constructed in Brooklyn, New York and many other cities, we are giving over 20,000 baths yearly.

One naturally would suppose that the medical profession would be among the first to welcome such a powerful aid as the Turkish bath, but such has not been the fact. This profession, as a body, has never given it much encouragement. Individuals alone excepted, they have waited for the people to demonstrate its value and to commend its use. Years ago an English physician said: "The public in this matter, is far ahead of the medical profession." As none but those who had traveled abroad knew anything about the bath, or had even taken one, it was sometimes very difficult to induce a person to enter its precincts. One professor in a medical college said he would not go inside the hot room for $50. Another on entering said he hoped he would not be incapacitated from calling on his patients the next day. Such was the nervous dread of the process by those who knew nothing of it. In fact it has been more difficult to convince the physicians than the layman of the value of the bath. With a few highly honorable exceptions, and in spite of a multitude of witnesses, those who control medical teaching and practice go on in the same old fashion, and are likely so to continue until an enlightened public opinion shall command the new and better way. To the people at large we are indebted for the success of the bath. While physicians believe too little, among the laymen there is sometimes the most unbounded faith in its power, as was shown by a man coming all the way from Chicago expecting to be cured of a severe attack of rheumatism by one bath.

The universal use of the bath during thousands of years in every part of the civilized world furnishes a stronger proof of its value than would any mere reasoning. If we would have our people powerful and progressive as a nation, we must necessarily look first to their physical welfare. We should at least in this nineteenth century be as wise as were the Romans. It is an encouraging fact that preventive medicine is constantly growing in the estimation of the medical world. The prevention of disease is a thousandfold more desirable than its cure. It will need but a generation to blot out many diseases and, through sanitary science, put a new and cleaner face upon mother earth herself. The dawn of the era of cleanliness has set in. Unfortunate is the person who can not enjoy a Turkish bath, for it evidences an abnormal condition of the system. With most such cases the shortest road to restoration would be through a wise and persistent use of the bath. Daily I see persons borne down by unnecessary suffering who, by a timely use of the bath and a slight deviation in their habits, would not only be saved this suffering, but they would place themselves upon a higher plane of health. Every man, woman and child would be the better for a Turkish bath once a week during his or her entire life. The young would develop more perfectly, growing straight, strong and handsome, the middle-aged would have less sickness and suffering, and increase in years imperceptibly, while the aged would grow old gracefully, because saved many of the discomforts of advanced years. There is no more important factor in personal hygiene. With complete external cleanliness come purity and perfect circulation of the blood, and the best conditions of health follow as a natural sequence. Thus prolonged life and a larger degree of comfort during life are secured. This desirable habit should be concomitant with obedience to physiologic laws. Indulgence in stimulants and narcotics, or any form of what is called high living, can never be made compatible with a clean life. A few generations living in the better way would bring about a higher standard of health and a new order of life. Twenty-six years ago to-day, upon a similar occasion in this room, I made a short address and closed with this wish: "May Brooklyn, one of the pleasantest cities in which to live, soon have the most magnificent Turkish bath in the world." By no means shall any exertions on my part be relaxed until this is an accomplished fact.

A CASE OF PRIMARY (?) LARYNGEAL DIPHTHERIA, TREATED WITH BEHRING'S ANTITOXIN.

BY EDWIN J. KUH, M.D.

CHICAGO.

Freda H., a robust girl, aged 7 years, complained of hoarseness on November 6, and remained indoors without symptoms of fever until November 11. On that day she took to her bed, and Dr. F. W. Mercer saw her for the first time. On the same afternoon I saw her in consultation with Dr. Mercer. During the day the temperature had ranged at slightly over 102 degrees. The fauces *were entirely free*, with the exception of a small, white, loose deposit on both tonsils, which was easily brushed away with cotton mounted on a probe. The child was hoarse and the larynx somewhat stenotic. No retraction of chest upon inspiration. Bronchitis in larger tubes. Examination of the larynx was very unsatisfactory, because of an unusually depressed epiglottis, and the child's intolerance of laryngoscopic examination.

The next morning, November 12, she coughed up a piece of membrane two inches in length, one-half an inch in width, and one millimeter in thickness. Laryngeal respiration was but slightly improved, and shortly after became very difficult. Temperature about as before, but pulse rate as high as 165. I saw her the same afternoon with Dr. Mercer, and injected ten cubic centimeters of Behring's antitoxin No. 2. A few hours afterward Dr. W. K. Jaques intubated. Cultures taken from the larynx showed the presence of Löffler's bacilli.

On the morning of November 13 the temperature reached 104⅕, the pulse rate was not lower, and the lungs were covered with fine crepitant râles.

This rapid inception of broncho-pneumonia led to a fatal issue at midnight of the same day. We could not observe that the injection of antitoxin had made any impression whatsoever on pulse or temperature of the child.

This unfortunate case must, however, not be considered as evidence against the efficacy of Behring's remedy, as the result was evidently clouded by the complication. The child did not die of diphtheria but of broncho-pneumonia.

1104 Columbus Memorial Building.

SOME OF THE CAUSES OF THERAPEUTIC UNCERTAINTY IN THE TREATMENT OF CHILDREN.

Read in the Section on Diseases of Children at the Forty-fifth Annual Meeting of the American Medical Association, held at San Francisco, June 5–8, 1894.

BY A. C. COTTON, M.D.

CHICAGO.

The limited time for the presentation of this subject prevents more than passing mention of a few of the many causes that tend to increase the uncertainty of our results in the treatment of sick children.

One frequent cause of failure, faulty diagnosis, whether due to a lack of appreciation of the physiologic peculiarities incident to this stage of development, or to insufficient care in ascertaining the pathologic condition and history, we will dismiss with the mere mention; and, although in the practice of medicine, two negatives *may* make an affirmative, we will relegate the use of wrong remedial agents to the company of wrong diagnoses.

A most common cause of therapeutic uncertainties is our forgetfulness of the difference between the actions of remedies in infant and adult organisms; or rather, shall I say, because we have never learned those physiologic actions in children. As students of materia medica we have learned some few facts and theories concerning the physiologic action of certain remedies in such and such doses in adults. As practitioners of medicine we attempt to apply this knowledge, after subjecting it to a sort of mathematical shrinking and crimping process, to the relief of diseased conditions in children. Are we not guilty of studying backwards? The age ÷ (age + 12) = a suit of clothes made for the man, with the pants and sleeves turned up to fit the boy. "Rules for determining dose for age," "relative toleration of drugs by adults and children," are expressions that must cause the thoughtful practitioner to blush, unless he admits that he treats a woman not as a woman but as a she man. If we must have a standard of physiologic action of drugs and remedial agents and a standard posologic table, by all means let us adopt the infant; and in accordance with the mathematical idea use the sign of multiplication rather than that of division. However, the absurdity of applying our knowledge of the action of remedies in the adult organism to a physiologic entity so totally different as that of the child, is as apparent as the practice is common. Wrong habits of thought lead to wrong methods of practice. We administer larger doses of calomel, castor oil, etc., as evacuants or eliminants, for the reason that a largely over-worked glandular system is at fault, not because the patient is a child. We recognize an unstable nervous system as easily affected by neurotics and narcotics, and exhibit strychnia, and opium, with caution, but not because it is a child. The mydriatics as respiratory sustainers may be indicated in full doses in enfeebled respiration, not because children tolerate well belladonna, hyoscyamus and stramonium.

Rapid changes in the histologic structure of the digestive tube cause extreme susceptibility to gastro-intestinal irritants, too large doses of medicine producing shock, irritation or over-stimulation followed by depression. Hence small doses at short intervals are advised, or some other route to the interstitial circulation is sought, as, by medicated inunctions, etc. "Age and weight," forsooth! It is the *condition* that should determine our posology. No "royal road" is found or "therapeutics made easy" by such attempts at classification. Let us discard all such "rule of thumb" methods and dignify, not cheapen, our great art by careful painstaking application of our treatment to the especial requirements of each individual case.

Perhaps the most prevalent cause of uncertainty in our therapeutics is the almost universal ignorance or indifference as to *what the patient actually takes in the guise of medicine*. The physician may be never so careful in his diagnosis, unremitting and self-sacrificing in his attendance upon the little sufferer, elaborately scientific in his therapy as expressed in his written order for remedial agents, and then—what? Indolence, ignorance, or habit? What strange apathy, what paresis has chained the faculties and judgment of this erstwhile astute practitioner? Like the ambitious marksman with years of training and finished weapon, who, facing the target, its center the goal of his ambition, shoots into the empty air and trusts to—luck. Is it strange that he marvels at the uncertainty of therapeutics and perhaps joins the popular throng of those who descant loudly upon the inefficacy of drugs? "Throw physic to the dogs," aye, as you throw it to your little patients and the canine mortality will be greatly increased.

What avails care in diagnosis and skill in prescribing, if the prescription is left to the druggist whose shelves are filled with preparations, respectable in name to be sure, but in fact rendered inert or positively harmful from adulteration, decomposition, degeneration, contamination or which, by chemic changes and bacteriologic cultures, produce substances totally different from the active principle of the drug from which the preparation derives its name? With this in mind enter some pharmacy (?) and interrogate the shelves, and tell me if you do not find tincture of belladonna from leaves which vary 200 per cent. in atropin, tinctures of nux vomica of uncertain strength, lactucarium absolutely inert from want of care or knowledge in the gathering or preparing, lacto-peptin which is but a poor saccharated pepsin, wines of colchicum and ipecac inert from age because unstable, cascaras adulterated with aloes, rhubarb with turmeric, santonin with boric acid, potassium bromid with sodium chlorid, aqua calcis showing film and precipitate, ergot inert, old spirits of nitre which has become something else, spirits of mindererus which absorbing ammonia from the air, has become alkalin and inert, olium morrhuæ with cotton-seed oil, and old unstable emulsions of no one knows what? Do you not also find agents rendered dangerous because irritating or poisonous to the digestive tract? as, cream of tartar adulterated with gypsum, chalk or alum; ginger with cayenne pepper; bismuth sub-nitrate containing arsenic; sulphurous

acid, kept too long exposed to air, oxidized to sulphuric acid; dilute phosphoric acid developing fungi; Fowler's solution with fungi, oxidizing and precipitating arsenic; syrup of the iodid of iron brown with oxidation and the liberated iodin: the same irritating free iodin in old syrup of hydroiodic acid; and everywhere syrups; and again more syrups, medicinal syrups, the enshrined idol of the pharmacist, the *bete noire* of the therapeutist. Unstable, fermenting from sub-saturation, re-crystallizing and precipitating from super-saturation. Frequently incompatible with its medicinal agent as syrup of ipecac, and frequently rendered innocent of the medicinal agent by the fermentation process or the subsequent boiling to which the druggist resorts rather than throw the stuff away. But in whatever form, medicated or unmedicated, fermenting or sterilized, always unfit for the stomachs of our little patients.

A reconstructive as lacto-phosphate of calcium, defeats its purpose by interfering with digestion when given in the popular syrups; and the use of syrup of calcium as an antacid needs no comment.

Now you have come to the shelves of large bottles, half filled with the sheet-anchors of pediatric pharmacology. Are they not carminative, antispasmodic, anodyne, analgesic, astringent, calmative, antipyretic and stable because antizymotic? You look closely at those fragrant, pleasant aromatic waters. Old are they and filled with algæ and fungi, and rapidly becoming inert or even dangerous. Now with your microscope can you distinguish these bacteria, with which the aqua cinnamoni swarms, from Koch's comma bacilli? and do they not almost always induce choleraic diarrhea? and was not this same aqua cinnamoni a leading ingredient in the *mistura cretæ* with which you dosed your little patients for whom you wrote so many certificates of death from "cholera infantum?" Therapeutic uncertainties indeed!

This interrogation might be continued indefinitely; but for want of space I have mentioned only a few of the preparations most commonly employed in the treatment of children. Omitting the uncleanliness of the clerk, the mortar, pestle, graduate, tile, spatula, bottle, stopper and vehicle; in fact, in the entire prescription nothing submitted to any sterilizing agency excepting, perhaps, the sealing wax which graces the outside of the cork. Likewise the absence of care at the bedside; the medicine glass, the spoon, the diluent, no thought of sterilization. The operative surgeon tells us that up to the last decade he killed a large percentage of his patients by introducing poisons into their systems, although his pharmacopœia contained but one principal agent, viz., cold steel. Those were the days, aye, centuries of surgical uncertainties. Now he boils his steel and, *presto*, an era of precision and certainty.

Let us go back to the drug-store. Ask the soda-water artist if he keeps in stock surgical supplies. What is the inventory? Sponges, catheters, bougies, bandages, lint, sutures, ligatures, drainage tubing, poultices, plush-lined cases of ebony-handled instruments, adhesive and court plasters and pots upon pots of ointments, salves, cerates and lotions. Yes, he *keeps* them all. Why? No surgeon will buy them. The surgeon who now introduces poisonous microbes with his trocar frankly calls it man-slaughter. The physician employing a teaspoon calls it "therapeutic uncertainties." To the tearful, despairing parent, "your child is in the hands of God," says the physician. "The patient is in *my* hands," says the surgeon. Shall we wonder if the surgeon is deified?

Wherein lies this difference? Scientific knowledge is common property, but the courage of the surgeon first rose to meet the demand for results. With one stroke he swept from the shelves of pharmacy all the rancid pots of unguents, cerates, salves and embrocations, substituting cosmolin. To the further demand for certainties he rose and took a mighty oath, before which that of Hippocrates pales into insignificance: "I will introduce into the system of my patient nothing but what I know to be innocuous." "Surgical cleanliness" became the watchword, and he made it his religion. If conventionalities and the wisdom of the ages stood in the way, so much the worse for the conventionalities. All the old and much admired stock of instruments, appliances and dressings had to go. Hospitals were torn down, operating rooms constructed, time-honored customs abandoned, nursing sisterhoods ignored, politics and sectarian bigotry defied, in the name of "surgical cleanliness." To secure this, the surgeon prepared his dressings, cleansed his patient, and sterilized his instruments with his own hands. "Let me have control of everything that touches this patient and I will assume all responsibility." The king himself may not approach the operating table. "Here, I am king." And what are the results? Surgical certainties.

Now what do we, as therapeutists, lack? The knowledge, the courage or the energy? We have the knowledge. "But," says a struggling practitioner, "we are not paid for this work." Nor was the surgeon until he did it; and the splendid results made rational the magnificent fee. Two operations a day are enough for any surgeon; the physician is never satisfied with fewer patients than a score. Many patients, smaller fee, poorer work. Is a life more valuable saved by surgical than by therapeutic skill? Is relief from pain less grateful when obtained through the physician's anodyne rather than the surgeon's knife?

The time is ripe for a long stride forward in pediatric therapeutics. The prevailing belief that the physician can do but little to control the course of disease in children must be positively and emphatically refuted by definite results. The physician must compel respect for his art, and compliance with his requirements, by painstaking, exhaustive diagnosis and elaborate care in the details of his management and treatment of every case. Parents must be shown the wicked folly of using the doctor and his "nasty medicine" as a bugbear with which to coerce refractory children in health, and taught that in sickness he must be allowed absolute control of the patient and every detail of the treatment. A trained and experienced nurse must be made an important factor in every possible instance. The plea of lack of time to attend to details must be regarded as an admission on the part of the physician that he has no right to undertake the case. The objection to expense must be considered an admission that the life is of little value to the parent. Absolute certainty as to what is administered, how and when, based upon an accurate diagnosis, is the only road to certainty in therapeutics, even if we have to prepare and carry our remedies to the bedside and administer with our own hands. Have we the energy to carry out our convictions? Have we the *courage?*

PERSISTENT VITALITY.

Read in the Section on Dental and Oral Surgery, at the Forty-fifth Annual Meeting of the American Medical Association, held at San Francisco, June 5-8, 1894.

BY F. O. JACOBS, M.D.
SAN FRANCISCO, CAL.

The interest that has lately been created in the operations of replantation, transplantation, etc., has raised the question among dentists as to whether a tissue will survive after having been removed from its natural position and again replaced, or after having been removed, can it again be transplanted to another individual without suffering death? And if so what time may elapse between the two operations? And if it should be determined that such operations were possible, what tissues are the most favorable to such operations? Or, in other words, and more briefly, is there such a thing as persistent vitality?

In surgical operations, just as in every other department of science, we are constantly meeting with surprises. What had been classed with the impossible yesterday is the practicable operation of to-day, and we are constantly being driven back to first principles to account for some unexpected results.

This subject involved the broad question, What are the conditions which produce death, and what conditions are required to support life? Can we lay down any law or rules that will hold good in all cases? At first we meet with so many seeming contradictions that we are discouraged in the attempt. We are prone to think that one form of life is something entirely different from another, and the rules that would apply to one will not apply to another. While we find, in general, that living organisms may exist only in an atmosphere or medium containing more or less free oxygen, some one comes along and tells you he knows of certain forms of life that can exist in an atmosphere of carbonic acid, drawing all its oxygen from its food. Another must have a medium of salt water; another must exist in fresh water; others still can not be immersed in water, but for a few moments without suffering death. Some organisms are able to withstand extreme changes of moisture or temperature. Some animal forms and also plants may be deprived entirely of their moisture; completely dried up, so that vital functions are entirely suspended until moisture is again restored. Some may be frozen in cakes of ice or raised to a temperature near the boiling point of water, without any other effect than to suspend functional activity for the time being.

Among the more highly specialized organisms the amputation of a member or organ generally produces death in the parts so treated, or in the entire organism, owing to which organ or part is separated from the body. But in the more simple forms amputation of a part only produces a new animal. A remarkable example of this is found in the fresh water hydra. This animal consists of a tube, one end of which is modified into a foot, the other is furnished with arms. The entire animal is of but one tissue. If an arm is amputated it immediately grows into a new hydra. The animal may be cut into several pieces, with the result of producing as many animals instead of death. One might think it was possessed of remarkable tenacity of life, but these animals are as easily killed as any. Turn the animal inside out, it immediately makes an effort to right itself. Should it fail, it dies. Deprive it of moisture and it dies.

Why should the cutting of an animal in pieces only have the effect of multiplication and simply depriving it of moisture produce death? Exactly the reverse of some other plants or animals. The explanation is probably this: Its stricture is that of large delicate cells, very soft, which are easily broken up by desiccation, so that by depriving it of moisture its structure is destroyed; death is naturally the result. Cutting it in pieces only multiplies it, because it is composed of but one tissue throughout, capable of performing the same functions. Hence a piece, if separated from the remainder of the animal, is not dependent upon it to perform any of the functions necessary to support life. Reversing destroys its life because the cells on the inside of the tube are so modified as to perform the functions of assimilating food; while the outer cells are for the protection of the inner. When the animal is reversed neither of these sets of cells are in a position to perform their natural functions, therefore death is the result.

Now, there are other plants and animals of which the reverse is true, which if deprived of their moisture simply remain inactive until the proper quantity of moisture is restored, when they resume their normal functions. In their case the cell structure is a strong firm tissue, which is not broken up by desiccation. Depriving the living matter or protoplasm within of its moisture is not a chemical, but a physical change. Chemical action, oxidation, etc., goes on extremely slow, if at all, until the proper conditions are again restored for the performance of its natural functions. The living matter within the cells is a chemic compound, the exact chemic nature of which is not known, but its constituent elements are known. It is extremely unstable, being constantly acted upon by free oxygen; on the one hand it must be constantly taking up the proper material, on the other to preserve the equilibrium in its chemic nature. Its affinity for water is great and its activity depends upon the presence of water; the more water it is able to absorb the more active it becomes. In the absence of that element activity ceases until moisture is restored unless some chemic change takes place, when it is no longer protoplasm. As it does not form compounds with other substances without losing its identity, differing in the least from itself in chemic nature a living tissue is never attached to a dead one or to other substances. Hence, when a living tissue is found attached to another, supposed to be a dead one, it must be considered evidence that the tissue supposed to be dead is at least possessed of a low degree of vitality.

What has been said of protoplasm is true of it wherever found, for living matter is the same thing wherever found. The different modes of death cited above are due to the difference in the structure of the tissue it inhabits. Where the tissue is composed of firm hard cell walls it is much more able to endure desiccation. Where an organ is composed of a similar tissue throughout its entire body, separating it into pieces only multiplies it.

One of the present methods of skin grafting, scraping the epithelial cells from the surface of the skin on to the part to be engrafted, is a case where a tissue or cells of formed tissue is engrafted on to another tissue, forming a union and a new tissue; transplanting.

Now, if a tissue can be transplanted from one

place or location to another, some time must elapse between the two operations. It then becomes a question how long will a tissue endure between the two operations, and what tissues are most favorable to such operations? How long could the scrapings of epithelial cells be preserved before transplanting, or how much time might elapse between the operation of extracting and of transplanting a tooth? The evidence furnished by such operations is conclusive that it is much greater than any of us have supposed. Bone may be engrafted from one animal to another, even chips of bone may be placed in the wound and a new tissue formed around it.—("American Text-Book of Surgery.")

Why may not a tooth be successfully transplanted? Its structure is not changed by extracting, and decomposition is less likely to set in than in any other tissue of the body.

The above illustration may seem to be far-fetched, but not so. Much of what we have yet to learn in physiology must be drawn from the study of minute and simply formed organisms. The facts to which I have called your attention will show that death implies a chemic change, and without that there is no death.

It also shows that the tissues that are best suited to transplanting, replanting, etc., are hard, firm and simple structured tissues, like the skin, the teeth and bone. Those less suited for such operations are of delicate cell walls and soft loose structure that will easily collapse when removed from its normal position and by loss of moisture.

The success that has been met with in transplanting such tissues fully confirms the above conclusion.

DISCUSSION.

DR. YOUNGER—I am glad that so able a microscopist as Dr. Jacobs is able to substantiate opinions which I have held and advocated for years. Although they were at first denied they are now, I believe, being looked upon with more favor. Dr. Barrett has confessed that he is a convert; Professor Wyeth and Professor Leconte have expressed their belief in persistent vitality; and now we have Dr. Jacobs, who was formerly opposed to the idea, testifying to its truth. He has stated the doctrine better than I can. I told Professor Garretson that the operation of implantation was a success, and that he would have to acknowledge it some time or other.

DR. DUNBAR—Like many others, I am waiting for more definite proofs on the point, though I think Dr. Younger is entitld to credit for the manner in which he has stood up for this theory. I don't think I can add anything to the presentation of the subject which has been made.

DR. JACOBS—The subject has not been sufficiently discussed for me to say much in reply. What I intended to show was that living matter, no matter in what form it is found, acts the same under similar conditions. If a bone or a tooth persists longer than muscle, it is because of the difference in structure. I attempted to show by plants and other animal tissues that where they withstood desiccation it was because of their strong cell structure. The resurrection plant, as is probably known to all of you may be laid away for years, for an indefinite period, and then if supplied with moisture it begins to grow. This is not because of a difference in its protoplasm, but because of its structure. It has been simply dormant; there has been no change in its living matter. Because the living matter in the tooth is found in a little thread protected by strong walls, it has not much chance of destructive changes; consequently why should it not be restored when placed where it can be nourished?

DR. YOUNGER—One of the best proofs of persistent vitality is the return of sensibility to an implanted tooth, even after it has been a long while out of the mouth before being implanted.

DR. DUNBAR—Is your confidence in persistent vitality such that you would leave a desiccated pulp in place in a tooth you intended to implant?

DR. YOUNGER—I remove the pulp as a rule, because I am not sure there is not some dead tissue in it, but the fibrillæ of the pulp in the dentinal canaliculi are left, and that is where the vitality may be re-awakened. (Dr. Younger here related the first instance in which he observed the principle which he calls persistent vitality.)

DR. TALBOT—I have reported a case which appeared to proceed on the same plan which Dr. Younger has demonstrated. It has already gone the rounds of the journals without a satisfactory explanation having been offered. It seems to substantiate Dr. Younger's idea.

DR. W. L. CAVELL, San Francisco—Related the case of a patient, now a lad of 16 who about two years ago, while playing at school had the two superior centrals knocked out. The teeth were replanted on the following day by a dentist with the ordinary antiseptic precautions, but the apical foramina were not closed, being left in the natural condition. During my senior term at the college, the patient was given to me to be treated for a cleft palate, when a medium-sized cavity was found on the mesial surface, midway between cutting edge and cervix of the left central. In preparing the cavity I opened into the pulp-chamber which I supposed had been filled. A hemorrhage sufficient to fill the cavity and allow of a drop to fall upon the dam followed the opening into the chamber by the bur. After assuaging the hemorrhage I capped the tissue in the ordinary way and inserted a gold filling. The tissue in the pulp-chamber was found on examination to be highly vascular, sensitive to the touch, but thermal changes caused no inconvenience. The tooth was not sensitive to the bur or on application of ice. The edges of the cavity were zigzag.

DR. DUNBAR—I gave it as my opinion that in the case of all replanted teeth there is an effort on the part of nature to remove the replanted tissue. I believed that ultimately all these teeth would be exfoliated with absorbed roots; and I gave it as my opinion that in those cases which were accounted successful probably one-half or more of the root was absorbed and the place of the absorbed structure filled with hypertrophied tissues. But I do not think that any harm is done by the treatment. Dr. Talbot's case was a very remarkable one. I was interested in a paper by Dr. Henry Chase many years ago on dental circulation. It would be interesting to know just where the exchange of pabulum took place in this case. I have taken the view that a tooth is doubly nourished,—from the pulp and from the pericementum. All dentists who have had experience in replantation or transplantation know that the tooth changes color in forty-eight hours, which is due to the moisture which it absorbs, as there is no circulation of blood in the tooth. I recall the case of a butcher who broke a bicuspid, in which the tubuli were injected; they were clearly colored by the hematin of the blood. Although there is no circulation of blood in the tooth, there is a movement of the blood plasma from the foramen and the pericementum, and by osmosis there is an interchange between the two, and I have had a theory that this interchange took place in the interglobular layer. I have had no demonstration of this, but it is a plausible explanation. With reference to Dr. Talbot's case, I can not see how a dead tooth would be affected in the way described, though in a case of immediate extirpation of the pulp it could readily occur; but that is contradicted by the fact that in all the cases of implantation I have had, the pericementum is dissolved away, and on percussion there is an absence of the springiness characteristic of normal teeth. If the pericementum is gone, where does the tooth get its nourishment from?

DR. YOUNGER—The tooth referred to by Dr. Jacobs split, and when I got another suitable tooth to take its place I attempted to extract it whole, but an implanted tooth is very difficult of extraction, as any one who has tried it will testify, and this one pulled apart. Dr. Jacobs, upon examining it under the microscope, said that it had true pericemental tissue clinging to it.

DR. JACOBS—I expected to read my paper yesterday, and I then had sections from these specimens with me. I will bring them to-morrow. I agree with Dr. Dunbar that there is no true circulation of the blood in teeth, except as he said where the apex is not so thoroughly calcified, but the circulation there is exactly the same as in plants. It is always up, never down. Osmotic action proceeds from above and below. In the absorption of implanted teeth I hold that the process is occasioned by lack of nourishment. Such a tooth has no pulp, from which the principal part of the nourishment of a tooth comes, and when the pulp is gone not enough pabulum is received to keep the tooth in health.

Dr. Talbot read a request for the members of the Section to assemble with the other delegates to-morrow at 1 o'clock in front of the Mint to have a photograph taken.

SOCIETY PROCEEDINGS.

Mississippi Valley Medical Association.

Abstract of the Proceedings of the Twentieth Annual Meeting, held at Hot Springs, Ark., Nov. 20–23, 1894.

FIRST DAY—MORNING SESSION.

The Association convened in the large dining room of the Eastman Hotel, and was called to order at 11 o'clock by the Chairman of the Committee of Arrangements, Dr. Thomas E. Holland, of Hot Springs.

Prayer was offered by Rev. Joseph A. Dickson.

An Address of Welcome on behalf of the State was delivered by Governor Geo. W. Fishback. Hon. W. H. Martin, of Hot Springs, followed with an Address of Welcome on behalf of the citizens of Hot Springs. These addresses were excellent, well delivered and warmly applauded.

After the reading of the reports of the Secretary and Treasurer, the President, Dr. X. C. Scott, of Cleveland, Ohio, delivered his Address.

PRESIDENT SCOTT referred to Hot Springs as a desirable place for the meeting. All medical associations should be founded and carried on for the purpose of elevating the profession, and producing a beneficial influence upon its members, and also that they may meet face to face and thus learn to know each other personally and better. They should elevate personal character, afford protection to professional interests and advance personal attainments. He urged upon the Association the importance of issuing, if possible, an annual volume of Transactions, which he thought could be easily done with the annual dues at $3. To be successful, the financial affairs of the Association must be conducted with the same careful and rigid supervision that pertains to any private business. The membership was not as large as it should be. He urged that each member go home from the meeting determined to bring with him next year one or more members. If this was done there would be no longer a complaint of paucity of members.

The holding of the annual meetings in different parts of the Mississippi Valley was to be commended, for by so doing we increase our membership and spread wide the good work done by the Association. He thought the idea of reading all papers before the general body would afford larger audiences, create more interesting and better discussions, and consequently result in a maximum good to a larger number of members.

Since the last meeting some of the States have passed excellent laws governing the practice of medicine, surgery, and midwifery, but he was sorry to announce that in other States where it had been attempted to pass similar laws they had failed from the want of enactment.

At the conclusion of the President's Address, a committee of five was appointed to consider the suggestions contained therein and to report at a subsequent session. On motion, the Association adjourned until 2 P.M.

FIRST DAY—AFTERNOON SESSION.

The first paper read at this session was by the HON. W. S. KERR, of Mansfield, Ohio, entitled

SOME OBSERVATIONS ON THE RIGHTS AND DUTIES OF MEDICAL WITNESSES.

The paper dealt with the rights of physicians and surgeons when subpœned as expert witnesses, and with the duties incumbent upon them as members of a learned and honorable profession when they are called upon to testify as medical experts. The weight of expert medical evidence depends upon two qualities: 1, the skill, learning and experience of the witness; and, 2, his honesty. The latter quality can be and should be alike in all. The former, in the nature of things, must vary and differ in degrees almost infinite in number. A physician whose practice has been confined to the small towns or the country could not be an Ericsson, nor one of three years' experience an Agnew. But all are admitted to testify to those things which they have studied and practiced, and the course of truth and justice demands that, according to their lights, they should testify the truth, the whole truth and nothing but the truth. The evidence of an expert should be compensated for commensurate with its value. In criminal cases the amount should be fixed by the court; in civil, by agreement between the expert and the party calling him. The medical expert should never have his opinions for sale. Fidelity to his profession and its great principles should be his pole star. Medicine is the greatest of the professions. It deals with life and health, the dearest possessions of this sphere. Its members have ornamented the most exalted stations, and in its daily work, without herald or drum beat, it modestly performs its great task in life.

The author then quoted the opinions of several distinguished judges and lawyers regarding the importance of medical expert testimony.

DR. EMORY LANPHEAR, of St. Louis, followed with a paper entitled,

BONE AND JOINT TUBERCULOSIS THE FUTURE FIELD OF LITIGATION AGAINST RAILWAYS.

He submitted the following conclusions:

1. Pott's disease, hip joint disease, white swelling, and most chronic joint affections are tuberculous, and that "scrofula" has no existence, being an attenuated tuberculosis.

2. The family history is unimportant, as tuberculosis is always acquired—never inherited. The presence of tuberculosis in the family simply gives a better opportunity for infection.

3. Infection may occur in very early life. The germs lie dormant for many years in the lymph glands, and local tuberculosis only develops after an accident.

4. An injury to a bone or joint must be slight in order to cause tuberculosis. If severe, the resultant inflammation or hypernutrition is not favorable to the proliferation of the bacilli.

5. An injury *alone* can never produce tuberculosis. The bacillus must always be present in the system, or introduced into a wound at the site of injury.

6. *Per contra*, bone or joint tuberculosis would never develop without a slight local injury.

7. If, after the railroad accident, falls, wrenches or other accidents may possibly have occurred, the local trouble may be due to them as well as the railway injury. There must be a direct sequence to attribute the disease to the local injury.

DR. ROBERT H. BABCOCK, of Chicago, made some remarks on "Enlargement of the Heart without Valvular Disease, with Especial Reference to Treatment."

The author said that idiopathic enlargement of the heart, as Fraentzel designates it, affecting primarily the left ventricle, is due primarily to prolonged high arterial tension, and this increase of arterial tension may be secondary to 1, cirrhosis of the kidneys; 2, chronic arterio-sclerosis; 3, congenital narrowing of the arterial system; and 4, some obscure condition probably dependent upon defective assimilation and elimination, which is not fully understood, connected probably with the circulation in the blood of toxins. The author wished to be understood as speaking of idiopathic enlargement of the heart without valvular lesions. Prolonged high arterial tension he considered the chief factor concerned in the production of this form of enlargement of the heart. The enlargement may involve either the right side or the left side of the heart or both. A case was reported in which the enlargement was primarily of the left ventricle, and the enlargement which existed on the right side of the heart was probably secondary to the dilatation which had taken place of the left ventricle. Prolonged high arterial tension, when independent of organic disease of the kidneys or blood vessels, seems to be due to what the Germans call *luxus consumption*. It is observed in

individuals who belong to the better class, who are more or less sedentary in occupation, who are hearty feeders, and oftentimes great diners-out. The treatment was divided into, first, the treatment of the stage of loss of compensation in which the heart is at first broken down in its resistance. Rest is the important factor along with cardiac stimulants and the administration of remedies calculated to decrease the high arterial tension. The patients usually present themselves with dyspnea, cough, and frothy expectoration, and an extremely rapid and feeble pulse, with all the evidences of cardiac dilatation. The first indication, therefore, is to relieve the over-distended left ventricle and to whip the heart on to increased vigor or contraction. Hydragogue cathartics are therefore indicated from the first, since their action is to lessen arterial tension, and by preference the author uses one of the mercurials, since the effect of calomel or blue mass is to lessen arterial tension even before its effects are manifested on the intestines, and this is followed by a saline. Digitalis, strophanthus, and their congeners are not suitable to the cases in the stage of loss of compensation, since the effect of digitalis, and to a less degree strophanthus, is to increase the resistance within the arterial system, and thereby increase the strain, already too much for the impaired right ventricle. It is preferable to administer an arterial stimulant rather than one of the so-called cardiac tonics. Under the effect of rest and cardiac stimulants, improvement in the condition is generally manifested speedily.

The author then referred to the Schott method of treating these cases, which consists of baths and gymnastic exercises. He stated that the treatment had been used in Germany for more than ten years. A combined course of baths and gymnastics is given for an interval of from perhaps seven or eight weeks. He considers this method of treatment suitable to all forms of chronic cardiac disease, excepting those in which heightened arterial tension would be disastrous, as in widespread and extreme chronic arterio-sclerosis, aneurism of the aorta or other large vessels, or cardiac aneurism.

DR. W. T. BAIRD, of Dallas, Texas, read a paper entitled "Oxygen as a Heart Tonic and Some of the Benefits which may be Derived from its Use as Such."

DR. W. H. DALY, of Pittsburg, Pennsylvania, followed with a paper entitled

MALARIA A WATER-BORNE DISEASE.

The author said in summing up the evidence in a given case of so-called malaria, it is important to remember that the water vehicles of malaria may include contaminated land water, taken into the stomach on the stalks of celery or on the leaves of lettuce, or it may find its vehicle in the rinsing of milk cans with malaria water or in the adulteration of milk with contaminated water containing the Laveran germ; the cistern water stored under the earth may be easily contaminated by the earth water containing the germ, if the cistern itself is cracked or otherwise inefficient. The fact that the patient has drank at all of suspected water, even but once, ought to be taken into consideration, as the single draught of contaminated water may have contained all the necessary germs for the infection of the blood and the production of the fever. The author defined his position on this question by quoting from an article, published in the *Medical Record*, of Sept. 15, 1894, wherein he says: "Twenty years' observations and studies on this subject and investigations made in various districts from Manitoba to Louisiana, and all along the southern coast of the Atlantic Ocean, and of Cuba, Yucatan and other districts in Mexico, lead the writer to the conclusion, that so-called malarial disease is not easily, if at all, contracted by inhaling so-called malaria or bad air of the low, swampy or new lands, but it is distinctly, if not *almost exclusively* due to drinking the water that has come in contact with and become infected by the malarial germs or infusoria that exist in the earth and waters of the swamp and low lands. This germ does not ordinarily, if at all, float in the air during the day or does it easily find a vehicle in the fog or vapors of the night."

The author then quoted at length the contributions of Laveran and others, to show that malaria is a water-borne disease.

THE INFLUENCE OF EARLY TREATMENT ON THE LATE MANIFESTATIONS OF SYPHILIS.

This paper was read by DR. A. RAVOGLI, of Cincinnati. The author said that syphilis must be seriously treated, and the opinion of letting it take its own course is a heresy condemned by experience. Mercury is the true antitoxin for this disease. It is necessary in instituting treatment to take under consideration the general condition of the patient, his habits, his general health, his surroundings, etc., which have great influence in the toleration of the medicine. The author believes that early, well-directed treatment of syphilis will prevent tertiary symptoms. Mercury can be administered either by the stomach, by subcutaneous injections, by inunctions or by baths. The selection of the method should rest on the good judgment of the physician.

SECOND DAY—MORNING SESSION.

DR. A. P. BUCHMAN, of Fort Wayne, Ind., read a paper on

INTESTINAL INDIGESTION.

Intestinal putrefaction is in its incipient stages not due to a pathologic condition of the tube below the stomach and duodenum, but is dependent solely upon errors of gastric and pyloric digestive processes. Excess of food ingested will universally induce such putrefactive processes, which in infancy and childhood are exhibited in the bowel diseases of early life and can with reasonable certainty be differentiated from deflections by other causes, by the odor and appearance of the dejecta. This phase of intestinal indigestion is due to the primary action of certain bacteria on albumen and albumenoid substances which have slipped past the duodenal gateway without receiving the vito-chemical touch necessary to render them harmless, is intermittent and transient and of little consequence until by constant repetition it becomes a menace to the general organism. The toxic elements generated in this process sooner or later render glandular and cell environments of the intestinal tube altogether unhealthful. The air patients breathe, the water they drink, and the food they eat are charged with a miasm which absolutely forbids a healthy reaction, hence most complicated and decidedly serious pathologic conditions arise. The author said another chief source of intestinal indigestion arises from the inability of the tube below the pylorus to successfully cope with the relatively enormous quantities of carbo-hydrates and hydro-carbons that are daily and continually ingested.

In the second stage of intestinal indigestion the whole lining membrane of the intestine is thoroughly catarrhal, its epithelial investment is no longer capable of performing its allotted work with any sort of regularity and normality. The villi are practically paralyzed and entirely cease selective absorption. The whole glandular structure is undergoing degenerative and thickening processes; the ileo-cecal valve is paralyzed, the cecal end of the colon now fails in its peristaltic movements, the valvular opening to the appendix is permanently relaxed, admitting into the tube whatever may be in the vicinity of its mouth, hence the frequency of appendicitis. The colon becomes thickened throughout its entire structure; the colonic valves become lengthened and thickened. The further changes that take place in intestinal indigestion were pointed out by the essayist. In the third stage we have a large grouping of diseases which, when studied from this point of view arrange themselves in most orderly sequence around their cause. They mainly consist in such forms of pathologic action as result in speedy dissolution, as, for instance, hasty consumption of the lungs, the forms of Bright's disease that run a rapid and fatal course and consumption of the mesenteric glands. Many, if not all, of the rapidly fatal diseases of the nervous system belong to this grouping. In conclusion, the author said that any form of treatment instituted for the relief and cure of intestinal indigestion must necessarily include a careful consideration of the stomach and colon; that very little, if any, amelioration of symptoms will result unless they are both rationally included. Inasmuch as the colon is within easy reach via the rectum, it is the author's experience that colonic baths properly medicated are immensely useful in the general treatment and care of patients suffering with intestinal indigestion.

DR. J. E. WOODBRIDGE, of Youngstown, Ohio, read a paper entitled "Typhoid Fever can be Aborted; another Year's Work with no Death and no Failure in Evidence."

This paper was in the nature of a supplement to the author's previous contributions on this subject which have been published in medical journals, and with which a great many members of the profession are familiar. It will appear in an early issue of this journal.

DR. HENRY SUMMA, of St. Louis, read a paper entitled "Ox-Gall in the Treatment of Typhoid Fever." The author highly recommended its use in this disease, and has obtained excellent results with it.

(To be continued.)

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SATURDAY, DECEMBER 1, 1894.

THE SCIENTIFIC DEPARTMENTS OF OUR DRUG MANUFACTORIES.

The times have changed in America when the pharmacist was simply the importer, perhaps part owner of the ship which brought his cargoes to our shore. He has now become not only a merchant, but a manufacturer; not only a manufacturer, but a scientific producer, and in the particular realm of science to which he devotes himself, he has few superiors in practical chemistry. We might, however, say the same of many other leading industries. Indeed, it is the tendency of the time that directness, simplicity and economy govern all manufacturing establishments. Even the beer breweries now employ expert chemists who test the various productions, estimate the value of the hops, and malt, govern temperatures, and give directions as to the length of time to be occupied by given processes. The chemic laboratories attached to the establishments of manufacturing pharmacists, have grown to be very extensive, very complete, and give employment to the highest order of attainment. It is natural, then, that men engaged in such pursuits should seek some outlet through which the world must become familiar with their studies, investigations and results. This has led to somewhat irregular or rather desultory methods of establishing quasi-medical journals or tracts of uncertain publication, and various papers which, excellent in themselves, have fallen short of the mark and failed to reach those for whom they were intended by their being handicapped with the suspicion of commercial interest.

The time has come, however, when the vast stock of chemic and pharmaceutic knowledge stored in these great laboratories must be made available to the American medical profession.

DR. SQUIBB, of Brooklyn, New York, well known as a manufacturing chemist of note, several years ago pointed out the way whereby the experiments made in his laboratory could become the property of the profession. SQUIBB's Ephemeris was the result, and it at once took a high rank in the profession, and we have not learned that the sale of the products of the laboratory of DR. SQUIBB has been in any way hampered or lessened by his giving in scientific form not only the means whereby these different products can be tested and their purity established, but the formulæ whereby they were best prepared. Therein lies a lesson for other manufacturers who have large establishments and even greater facilities for work of the highest value to the dispensing pharmacist and practicing physician. Let us have more scientific productions from the great laboratories of our manufacturing chemists. Let them publish their methods, the scientific experiments which they make, and when they have attained clear and definite results let them be boldly stated. Not only will they gain in the opinion of the medical profession, but it is more than probable that the value of a scientific name will be appreciated by the profession in such a manner as to make it pecuniarily profitable not only to issue ephemerides, but regular working bulletins and monographs. Some of the manufacturing establishments in Europe have been pursuing this course for some time, and we understand that from time to time some of our own manufacturers have published occasional monographs or "working bulletins," but the systematic output, if we might term it, of the scientific investigations conducted under the direction of our leading firms has not, we believe, been at any time regularly or completely carried out.

This result, we trust, will shortly be accomplished, and it is probable that with its accomplishment there will come the end of that series of products classed under the name of "secret preparations," which have in the past given rise to so many controversies, and such wide differences of opinion between the medical profession which should be working for the common unity of the profession. If it be urged that a large number of these manufacturers are engaged in general trade, and that therefore they do not become personally responsible for the character and chemic purity of every product shipped from their establishments, it may be answered that the division of their establishments into general and scientific departments, so that any products bearing the label of the scientific department would at once be *prima facie* evidence of its purity, and in this case the objection would fall to the ground. There would be no question in the mind of any of the members of our profession if at the head of each scientific department so created, a well-known scientific man were placed, in order that there would be a definite responsibility for any statement made by him.

THE DEGREE OF D. P. H.

The JOURNAL is gratified to learn that at least one medical college has already taken steps looking to the establishment of a course leading to the degree of Doctor of Public Health—as suggested editorially in these pages last month.[1] The institution is prosperous, well equipped and ranks in the higher class of the four-year medical schools in one of the important centers of medical education. The JOURNAL will give publicity to its announcement as soon as the details of the course in sanitary science and State medicine are perfected.

Meanwhile, in order to facilitate the establishment of similar courses by other institutions, the following summary of the requirements for this degree exacted by the General Medical Council of the United Kingdom is offered. These requirements are based, as stated in the previous article, on the provisions of the Local Government Act of 1888—to-wit, that no person shall be appointed medical officer of health in any district unless he is legally qualified to practice medicine, surgery and midwifery; nor in any district of over fifty thousand inhabitants unless he is also the holder of a diploma in sanitary science, public health or State medicine. It is with the latter of these provisions that the General Medical Council is empowered to deal. In December, 1893, it declared with reference to those who begin the study of sanitary science after January 1 of the present year, that it will not consider the prescribed diploma deserving of recognition in the Medical Register—without which it is valueless as a qualification for the appointment—unless it has been granted "under such conditions of education and examination as to insure (in the judgment of the Council) the possession of a distinctively high proficiency, scientific and practical, in all the branches of study which concern the public health."

The conditions of such education and examination required by the Council are in substance, as follows: 1, no candidate for the degree of Doctor of Public Health shall be eligible for examination in sanitary science, public health or State medicine until he has spent at least one year in the study of these subjects *after* he has become a legally qualified practitioner of medicine, surgery and midwifery; 2, six months of this period must have been spent in study in some approved laboratory in which is given practical instruction in chemistry, bacteriology and the pathology of the animal diseases transmissible to man; 3, another period of six months, or its equivalent, must have been spent in the practical study of out-door sanitary work; 4, satisfactory evidence of compliance with these conditions—as well, also, as evidence that he has attended the clinical practice of a hospital for infectious diseases—must be presented to the examiners, who shall be men specially qualified to conduct such examinations. The examinations extend over not less than four days, one of which is devoted to practical laboratory work and one to the investigation of and report upon subjects within the special out-door duties of a medical officer of health.

The foregoing summary embraces only those points of the English system likely to be available for adoption in this country, but sufficiently indicates the essentials of a thoroughly practical course for an American degree of D. P. H.

[1] "A New Field for the College," JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, Nov. 10, 1894; p. 729.

A BROAD FIELD OF INQUIRY.

Some months ago two leading teachers of the faculty of the medical college at ——— refused to sign the diplomas of four medical students, because they were known to be beer drinkers, and had been intoxicated during the lecture term. They had passed all the examinations with credit, and fulfilled all other requirements, and two of them had been cautioned by a professor in regard to drinking, the previous year. The majority of the faculty were disposed to grant them diplomas, on their promises of change, and by signing the pledge. The minority refused stoutly, and the matter was deferred. Recently, this has become a serious question; some influential friends of two of these students demand a final decision by the faculty. Several exciting meetings have been held, and the authorities are almost equally divided. It is held that these students are still drinking, and will disgrace the college which grants them diplomas. On the other side the drinking is doubted, and the past drinking is affirmed to be only the reckless overflow of generous convivial spirits, that will subside when engaged in active life work.

The defenders of the students refer to several members of the faculty who are moderate drinkers, and urge that these students should not suffer because of the narrow, fanatical views of persons whose habits differ. The battle is still going on, and it is needless to add that several good men are greatly excited over the issue of this case.

In another part of the country the same questions recently came to public notice in this way: Two medical men appointed by the Legislature on a very important medical commission, were rejected by the Governor. The surprise and disappointment roused a bitter feeling, which since the late election has brought out an explanation concerning the reasons for this rejection. The capability and respectability of these men were affirmed, but their habits of moderate and occasional intoxication were considered dangerous weaknesses, of which designing men might take advantage. The Governor declared that as the report of this commission would decide very influential interests he was not willing to have any one whose judgment might be influenced by spirits.

Still another bitter disappointment is made public in an Eastern college town. A young physician of superior talents who has been an assistant, and has been acting professor in an important chair that is vacant, finds himself put aside and another man placed above him. His superior endowments and training, with influential friends, are ignored, and an inferior man given the honors. The usual wild protests and indignation bring out the reason that he is a wine drinker and has been seen intoxicated at the club. This opens up a bitter field of personalities, and newspaper war of letters.

These incidents are significant of a change in public opinion, and a sharp tendency to make an issue of questions that would have been passed over in silence a few years ago. The capacity or incapacity of a moderate or excessive user of spirits attracts attention and is discussed seriously in cases where the question of brain vigor and health is involved. Business and practical men approach this question without any sentiment, and demand the facts sustained and confirmed by common experience.

The medical profession have a great duty here which they have much neglected. The disputed questions concerning alcohol are purely medical fields of study, and yet the profession has scarcely been heard as either pioneers, students or teachers along this line. In the place of scientific study, two great parties are battling each other; one of wild-eyed emotional reformers who denounce alcohol in every way, and the other party who support it and extol its value as a food, medicine, and beverage. The profession stand aloof—indifferent, or tacitly support either one side or the other. In reality, no topic in modern science is more vital and more intimately associated with disease and the sanitary interests of the community. The physician who is looking round for new fields of study and research will find vast undiscovered stretches of country awaiting the explorer along this line. The strangest and most significant fact of all is, that public opinion is far in advance of the physician in interest in this subject, and in some respects in knowledge concerning it.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

In a narrow valley at the southern extremity of the Ozark Mountains, the annual meeting of the Mississippi Valley Medical Association was held. The town of Hot Springs is now said to have about 17,000 inhabitants. It does not seem to contain one-half so many, because the valley turns and winds among the high hills in such a manner that but a small portion of it is visible at a time. The climate was all that an enthusiast of Hot Springs could desire; sunny sky, balmy air, and distant haze on the mountains; and the excellent hotel accommodations contributed to make the environment very pleasant. Many professional men were attracted to this meeting in order to see the place to which they had often sent patients, that they might have a more intimate and personal knowledge of this great sanitarium of the Mississippi Valley. They found that its virtues had not been exaggerated, and here was a young city filled with energetic and enterprising citizens in marked contrast to the towns and villages the traveler passed through in order to reach it. The citizens with large-hearted hospitality threw open their doors to the incoming visitors, and endeavored to the best of their ability, and with great success, to convince them of the superior qualities of the Arkansas Hygeia.

The attendance at the meeting was larger than that of last year, and we learn the registration numbered about two hundred. The scientific character of the papers was all that could be desired from such an assemblage, and PRESIDENT SCOTT with excellent tact, kept them well at work. We shall have many of the papers printed in full in the JOURNAL, and of the others we will have, as appears elsewhere, a full abstract of the meeting.

The banquet on Thursday evening was held under the guidance of that inimitable Toastmaster, DR. I. N. LOVE, of St Louis. It was elaborate and well attended; but if we were allowed to criticise we should say that its sweetness was too long drawn out, as it not only lasted into the "wee sma' hours," but also into the larger hours of the morning. Business over, the Association adjourned, but some of the members still lingered to refresh themselves with the pleasant waters of the springs, and to rest a little from the arduous character of their labors. Altogether it may be said that the visit to the Hot Springs, of the Mississippi Valley Medical Association is one long to be remembered, and marked in the history of the Association with a white stone. The next meeting will be held at Detroit under the presidency of DR. WISHART, of Indianapolis.

SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

The seventh annual meeting of this Association was held in Charleston, S. C., November 13–15, under the presidency of DR. C. KOLLOCK. There was an average attendance, and the program heretofore published in the JOURNAL was closely adhered to. The papers read were of a high character, and the discussions which followed were spirited. The JOURNAL will endeavor to publish a full abstract of the proceedings in a subsequent issue. The Association adjourned after having elected DR. L. MCLANE TIFFANY, of Baltimore, as President, and DR. W. E. B. DAVIS, of Birmingham, Alabama, Secretary. The Association selected Washington, D. C., as its next place of meeting, and the time the second Tuesday in November, 1895.

CORRESPONDENCE.

LETTER FROM BERLIN.

BERLIN, NOV. 10, 1894.

To the Editor:—I arrived in Germany on the 24th ult., and stopped for a short time in Bremen and Hamburg before coming to this city.

Through the kindness of Dr. Dunbar, Director of the Hygienic Institute in Hamburg, formerly an American citizen but now a German subject, I was introduced to Dr. Schede, a pupil of Volkmann, and Oberorzh of the New Eppendorf General Hospital—a new hospital of 1,800 beds, constructed on the pavilion plan, situated in Eppendorf, a suburb of Hamburg. The operating room is well arranged as to light and all the conveniences for modern surgical operations.

Dr. Schede courteously showed me over the buildings and invited my attention to many of his cases, the number and variety of which gave evidence of the vast amount of material that might be utilized in clinics. And yet Hamburg, a city of more than half a million inhabitants, has no medical school to make good use of this abundant material for instruction.

I saw Dr. Schede do an operation, original with himself, for the radical cure of varicose veins of the lower extremity, which deserves notice. He makes an incision from four to six inches below the knee around the entire circumference of the leg, dividing skin, fascia and *all* the superficial veins down to the muscles—as if he were about to make a circular amputation of the leg. The cut ends of the veins are then picked up, both above and below, tied with catgut and the wound closed. He informed me that he had performed this operation thirty or forty times, and in every case, without exception, with a satisfactory result.

The antitoxin treatment of diphtheria still excites the greatest interest here, and it would seem to an impartial observer that the efficacy of the remedy has been established beyond controversy, both French and German authorities agreeing that the mortality has been reduced from 50 or 60 per cent. to 10 or 12 per cent., and it is claimed that the mortality would be even less were the remedy always resorted to in time. Opinion is divided as to whether Behring or Roux deserves the credit for the introduction of this remedy, but I am informed that the man who first established the principle of this particular line of treatment is a young man, little known, namely Dr. Nuttall, an American, formerly assistant to Professor Welch at Johns Hopkins, but now attached to the Hygienic Institute in this city. The results of his experiments and the principle thereby established were set forth in a thesis which was afterward published, presented when he applied for his degree at Göttingen University some four years ago.

The following is a short sketch of the method of preparing the antitoxin:

1. PREPARATION OF THE TOXIN.—A pure culture of the diphtheria bacillus is made in bouillon, its growth being forced or hastened by maintaining a temperature of 37 degrees C.,—in Germany for eight days, while in France they take three weeks and use Fernbach's flasks which expose a larger surface of the culture to the air. The strength of the toxin is increased by hastening the growth of the bacillus.

2. SEPARATION OF THE TOXIN.—The toxin is separated from the bacillus by means of a Pasteur or Chamberland filter. The unit of strength is obtained by experiments on guinea pigs—one-tenth of a cubic centimeter should kill a 500 gram guinea pig with diphtheritic paralysis in twenty-four or thirty-six hours.

3. IMMUNIZING THE ANIMAL.—Half a cubic centimeter of the toxin is injected subcutaneously into the horse selected for the purpose and the effects carefully watched. The fever, edema, and loss of appetite which result, usually pass off in a week, when the second injection, one cubic centimeter is given and the same precautions observed as before. The injections are continued at intervals of about a week, depending on the reaction produced, increasing the quantity to 1½, 2½, 5, 10, 15, 20, 25, 30, 35, 45, 50, 60, 100 cubic centimeters, until, at the end of three months, usually, the animal can stand a dose of 250 cubic centimeters without reaction. He is then in proper condition for furnishing serum.

4. PREPARATION OF THE SERUM.—About six liters of blood are taken from the jugular vein of the horse about once a month. The blood is allowed to stand in a cool place till coagulation takes place and the serum is separated simply by siphoning. The serum will keep in sterilized flasks in a cool place six or eight months. Aronson, of this city, adds tri-cresol in the proportion of six-tenths of 1 per cent. in order to preserve it. The horse is kept immunized by injections of sixty cubic centimeters of the toxin every other day, but no injection is given for five days preceding a bleeding. In preparing the horse, if the first injection of toxin should prove too strong, the next dose is not diminished in quantity but its strength is weakened by the addition of Graw's solution, one-third, to the next two or three doses.

A strong serum is made by *intravenous* injection of 250 cubic centimeters to 300 cubic centimeters just after a bleeding, to be repeated as may be necessary until there is no longer reaction. This method is very dangerous to the horse.

5. ADMINISTRATION OF THE SERUM.—This is done by means of a large hypodermic syringe, inserting the needle beneath the skin of the abdomen, in doses of twenty to forty cubic centimeters to a child 5 or 6 years old, to be repeated if necessary in twenty-four to forty-eight hours or even in less time in severe cases. No bad effects have been observed from very large doses. The good effects are apparent usually in less than twelve hours, and consist in lowered temperature (when it has been elevated), improvement in the pulse, and in the general condition of the patient. It is said that every case of pure diphtheria can be cured if this remedy be used within two days after the onset of the disease.

I am indebted to Passed Assistant Surgeon J. J. Kinyoun, M. H. S., for material assistance in collecting these facts concerning this antitoxin, especially the French methods—Dr. Kinyoun having been with Roux in Paris where he had every opportunity for observing his methods.

Very respectfully,

GEORGE TULLY VAUGHAN,
Passed Assistant Surgeon M. H. S.

Private Homes for Old People.

HARTFORD, CONN., November, 1894.

To the Editor:—Some time ago I was asked to find a home for a worn-out physician who through death and changes was left alone in the world. He had a small income, and desired to go away among strangers where the past would be forgotten. I found the various old peoples' homes managed by churches and corporations, objectionable in many ways and lacking in the personality and sympathy so essential to many persons who have been active workers. The sanitariums and hospitals failed in this and other respects, and were neither cheerful or comfortable in their set rules and formalities. Private families who could furnish the proper accommodations could not receive single cases unless the prices paid were remunerative. This poor old physician was forced to enter a sanitarium, where he soon after died, neglected and alone.

The same question has occurred again, and I have found what appears to be a real want, that has not been recognized

practically. This is, briefly, an intermediate home for old people between the corporate and charity institutions and the private family. A suitable residence where all the comforts of rooms, surroundings, diet, seclusion, sympathetic personal care, and also medical attention when required, can be combined for a limited number of cases. Elderly people who from various causes are unable to command the quiet and seclusion of a home, and who would be better away from their former scenes, and have means to pay a moderate sum for this service, are to be found in almost every community. Old peoples' homes and other institutions bring them into a degree of prominence and subject to rules and regulations that are often irksome and unpleasant, such as the separation of a man and wife, and refusal to see friends except at stated times, and the imposing on them of certain perfunctory duties that break in on the cherished quiet and rest desired. Acting on my suggestion, a gentleman who has had several years' experience in the care of old people, has established a home of this character which will be opened January 1, at Ballston Springs, New York. Having made inquiries of the personal details of this work, I am sure it will be of interest to the profession and especially those who, like myself, have been advised concerning homes for old people, to give some of the facts.

Ballston Springs is a tree-embowered village in a valley five miles from Saratoga, and on the same mineral springs belt. Over fifty mineral springs of widely different values are located here. Invalids from all parts of the country live here for the sake of the waters which are free to all. The climate is very dry and bracing, being in the lower Adirondack snow belt, and mostly free from sleet storms and fogs. This town is nearly a hundred and fifty years old, and all the surroundings of good society and churches, with fine water supply and excellent drainage are exceptionally good. A large spacious residence near several springs is being fitted up for a small number of elderly people with the special object of furnishing a quiet congenial home, where personal interest and sympathy, with watchful care and attention are constantly at command. Medical supervision and nursing together with every other means, will be combined to make this a most delightful harbor for anchorage during the afternoon and sundown of life.

While I have no pecuniary interest in this home, I will answer with pleasure all inquiries relating to it, and give any information possible to any one who may be interested.

T. D. CROTHERS, M.D.

New and Important Pharmaceutic Product.

NEW YORK, November, 1894.

To the Editor:—On July 28, last, we presented to the members of the medical profession through the columns of the JOURNAL, a new brain and nerve tissue chemic food. The glycero-acid phosphate, the formula of which is almost identical with that of the lecithin of the brain cell and nerve tissue, $C_{44}H_{90}NPO_9$; and which furnishes the proper chemic nerve cell and nerve tissue food to the vesicular neurine of the brain where nervous force is generated, and to the tubular or fibrous neurine which conducts it. In answer to numerous inquiries and requests for samples I have sent to all who requested it, a sample of this nerve food with the result that it is now in successful use in many of our hospitals with good clinical results.

For many years I have felt the necessity for a preparation of the hypophosphites, combined with iron, quinia and strychnia, which would not precipitate and which did not require to be kept in a cave or dark place during the warm months of the year. I desired a preparation which should be much richer in the hypophosphites than any I could obtain in the drug stores, and one which should also contain a more decided dose of iron, quinia and strychnia, to act as a stimulant tonic and reconstructive in all tuberculous, strumous and wasting diseases and during convalescence from grippe and other infectious complaints, and which would be a powerful therapeutic agent to stimulate the general nutrition by means of its action on the nervous system. This, I think from my own experience clinically, I have perfectly succeeded in doing, as the glycerid of the hypophosphites comp. has a powerful stimulative action on the nutrition of all the organs, and this stimulant and tonic effect arises in a special stimulative action on the nervous system. It stimulates appetite and digestion, patients gain in weight and general appearance, and all report a feeling of invigoration from its use.

Each fluid ounce contains:

Hypophos. soda		
Hypophos. lime		
Hypophos. potass	ää grs. iv ss.	26
Hypophos. iron		
Hypophos. quinia, pure	ää grs. iv.	24
Hypophos. strychnia	grs. 4-60.	004

Dose from one to two teaspoonfuls in a wineglass of cold water before or with meals.

There is no possibility either of precipitation or of decomposition in this solution. It keeps indefinitely. A sample for physicians' use will be sent upon application to the author, at 305 West Eighty-sixth Street, near West End Avenue, New York.

Very respectfully,

E. C. MANN, M.D.

ASSOCIATION NEWS.

Photographs of Members.—Members of the ASSOCIATION are respectfully requested to send a recent photograph of themselves to the JOURNAL. In so doing please write plainly the name and age of sender and date of photograph.

The Department of Public Health.—The following circular has been issued by Chairman Cochran:

MONTGOMERY, ALA., Nov. 22, 1894.

Dear Doctor:—You are doubtless familiar with the effort which the AMERICAN MEDICAL ASSOCIATION is making to secure the enactment by the Congress of the United States of the bill now pending to create a Department and Secretary of Public Health. The great importance of the proposed legislation to the medical profession and to the people of the country is too evident to require argument. The only thing we need to discuss is how to secure for the bill the favorable consideration of the members of Congress. To this end this circular letter is addressed to the officers of State and other medical societies and associations with the urgent request that such officers will promptly appeal to the members of their societies and associations to write to their members of Congress, in both Houses, requesting them to give their support and their votes in aid of the passage of the bill referred to. If all the doctors in all the States take part in a movement of this sort, and would keep it up for a few years, there can be no doubt that success would soon crown our efforts. Let no one consider his influence of little consequence, but let every one write promptly. Such a storm of letters would batter down all opposition.

Every one who receives a copy of this letter will please enter into correspondence with the Chairman of the Committee.

Very respectfully,

(Signed.) JEROME COCHRAN, M.D., Chairman.
C. G. COMEGYS, M.D.,
N. S. DAVIS, M.D.,
J. C. CULBERTSON, M.D.,
CHAS. DENISON, M.D.,
U. O. B. WINGATE, M.D.,
W. B. ATKINSON, M.D.,
LISTON H. MONTGOMERY, M.D., Committee.

SOCIETY NEWS.

Chicago Ophthalmological and Otological Society.—The regular meeting of the Chicago Ophthalmological and Otological Society was held at the Schiller Building, May 8, 1894, Dr. Hotz in chair. There were twenty-one members in attendance. On Dr. Gardiner's motion the reading of the minutes of the last meeting was omitted. Drs. Ada Phelps and F. H. Weir were elected members. On Dr. Colburn's motion the President was instructed to make arrangements with Dr. Meyer to read a paper before the Society on the "Relations of the Cranial Nerves to the Eye."

DR. HOTZ reported a case of deep cupping of both nerves. Mr. M., aged 37, when 5 years old was struck in the O. S. with the end of a stick; the eye was red and painful for a few days only but the vision has never been as good as O. D. since. V. O. S. gradually grew worse and for several years there has been perception of light only. About three years ago he discovered a scotoma in O. D., one inch to right and one-half inch below fixation point at two feet distance. This blind spot has not changed since then but he thinks the V. O. S. has diminished in the last six months. Never any headache, or full feeling or dull pain about O. D.; no rainbow colors; no periodic obscurations. O. S, perception of light in lower temporal field only; tension normal; pupil dilated but responds feebly to light; normal anterior chamber; media clear; deep excavation amounting to 11 D.; size of vessels normal; no pulsation. O. D. V = 20–40 not improved by glasses; tension normal; pupil active; anterior chamber normal; excavation = 8.50 D.; vessels normal; no pulsation; field of vision for white normal; color fields much contracted.

DR. FISHER showed a case similar to Dr. Hotz: Mrs. W., aged 55, has had no pain or headache; tension normal; V. O. D. = 20–120; V. O. S. = nil; excavation + 5 D. O. D., 6 D. O. S.; veins slightly enlarged; has had trachoma for many years.

DR. COLEMAN reported: Mrs. C., aged 77, first noticed one month ago that she could not see to read with O. S.; could read ordinary type at that time c. O. D.; some discomfort of late in O. D.; V. O. D. = 6–12 c. + 1.50 D., V. O. S. fingers at eight feet; O. O lens shows few opaque lines in lower third; tension normal; total deep cupping of disc; gray-white atrophy; O. S. tension normal; cupping and atrophy of disc; cornea, iris and pupil normal O. U.; fields contracted for color and form.

DR. GRADLE reported a similar case, but the cupping only in one eye with the other normal. The tension was usually normal but was slightly + at times and Dr. Gradle made an iridectomy. The subjective symptoms disappeared but the vision was not improved.

DR. BEARD thought that extra ocular pressure of the lids in Dr. Fisher's case might have caused the cupping. He had two patients with similar cupping which might be caused by the pressure of their lids trying to overcome an Hm. astig.

DR. TILLEY mentioned two cases of deep physiologic cupping which resembled glaucomatous.

DR. WILLIAMS thought the contraction of the color fields in Dr. Hotz' case quite characteristic of atrophy. He showed several beautiful sections and photographs of normal and glaucomatous nerves.

DR. FAITH reported a case of purulent ophthalmia, caused by the discharge from a suppurating middle ear.

DR. WILLIAMS said he had examined the discharge from many purulent eyes and sometimes found no gonococci.

DR. WILDER said that sometimes some cases were caused by other bacteria than the gonococcus.

DR. GRADLE spoke of three cases of paralysis of the cervical sympathetic, one-sided, that he had had in the past two years. There was incomplete ptosis and contracted pupil but no redness or sweating of the face. None of the cases improved or got worse.

DR. COLEMAN reported a case of diplopia where the muscles balanced. It was due to the persistence of the perception of objects not in focus.

DR. HOTZ had a similar case.

On motion the Society adjourned.

C. P. PINCKARD, Secretary.

103 State Street.

NECROLOGY.

FRANK L. SIM, M.D., died at his residence in Memphis, Tenn., Nov. 23, 1894. He had been in failing health for several months and his death was probably due to malignant disease of the stomach and liver. Dr. Sim was born in Golconda, Ill., April 29, 1834. His literary education was received at Hanover College, Indiana. He graduated from the medical department of the University of Louisville in 1855, and a year later received an *ad eundem* degree in the Pennsylvania Medical College. Returning home in the spring of 1857, he practiced medicine with his father till 1861, when he left that part of the country and shortly afterward entered the Confederate service as a contract surgeon in the army, then stationed at Columbus, Ky. After a satisfactory examination he applied for a commission, but while awaiting the same he was ordered to Memphis with a boatload of soldiers sick with measles. Circumstances induced him to locate in Memphis, where he has ever since devoted himself to the practice of his profession. He remained at his post of duty during the dark days of Memphis in the various epidemics of cholera and yellow fever. In 1882, Dr. Sim became the editor of the *Mississippi Valley Medical Monthly*, but afterward changed to the *Memphis Medical Monthly*, under which name he has continued its editor and publisher. Dr. Sim at the time of his death was Professor of the Principles and Practice of Medicine in the Memphis Hospital Medical College and was Dean of the Faculty. He was a member of the AMERICAN MEDICAL ASSOCIATION, British Medical Association, American Public Health Association, ex-President of American Medical Editors Association, Memphis Medical Society, and at the time of his death was President of the Tennessee State Medical Society, and also a member of the State Board of Health. As a teacher, Dr. Sim was painstaking and popular, as a writer clear and vigorous, as a man the soul of honor and integrity, and as a practitioner he stood well with his professional colleagues and enjoyed the confidence of a large *clientele*.

JOHN DEXHEIMER, M.D., of Brooklyn, died November 11, aged 36 years. He was of German family, but was himself born in this country. He was a graduate in medicine from the New York University, in the class of 1882. He was an inmate of St. Catharine's Hospital for a short time previous to his death. His fatal malady was multiple neuritis.

WILLIAM P. OVERTON, M.D., of Cold Spring Harbor, L. I., New York, died October 24, aged 74 years. He was a graduate from the New York University Medical School in 1841. He practiced in Brooklyn for a number of years, but in "the sixties" he removed to the above named town. He had been President of the County Medical Society and Coroner for three or more terms in Suffolk County. He leaves a widow and one son. His final ailment was Bright's disease of the kidneys.

PUBLIC HEALTH.

Sulphite Works from a Sanitary Standpoint.—Rodling has recently investigated the large sulphite works at Gysinge in Sweden and reports (*Rev. Int. de Bibl. Méd.*) that the waste products cause 12.09 milligrams of various substances per liter to be discharged into the canal below the works. Of these, sulphuric acid, free or combined with calcium, forms 0.18 mgm.; SO_2, 0.06 mgm.; SO_2 in organic combination, 1.83 mgms.; calcic oxid, 1.10 mgms; and organic substances, 8.92 mgms. When the contents of the bake-ovens are emptied —three times a day—the SO_2 in the atmosphere is raised to about 0.04, but this causes no inconvenience to those accus-

tomed to it; a prolonged stay in the vicinity of the ovens, however, is insupportable, because the SO_2 in their vicinity is increased to 0.1. Traces of sulphurous acid were found in the snow which had laid about the works for four days. Neither the fish in the Dal below the point of discharge of the canal from the factory, nor the surrounding vegetation, seems to suffer from the sulphite works.

Increase of Smallpox.—Toward the close of November there was an increase of the number of cases of smallpox in localities previously infected, and a number of newly-infected localities were first reported. The disease, however, seems to be kept fairly well in hand wherever the health authorities are duly notified. On the 26th there were 106 cases in Milwaukee and 64 in Chicago. Infected persons escaping from these cities continue to carry the contagion into other localities; a passenger from Chicago on a Grand Trunk train was found on his arrival at Mitchell, Ontario, November 24, to be suffering from the disease; and a family which broke quarantine at Milwaukee and went to Sandwich, Ill., caused an outbreak at the latter place, resulting in a large number of cases and two deaths up to the 26th ult.

Microscopy of Factory Dust.—The noxious effects of factory dust are due—apart from bacilli—either to its chemic composition or to its structure. As to structure, the most injurious forms are those of irregular shape, and the smaller these are the farther they penetrate the bronchi and the more intense and disastrous their action. The following varieties of factory dust are, according to *Le Revue d'Hygiene*, to be considered very dangerous: 1, metallic; 2, some kinds of stone dust; 3, dust of animal origin, such as shell, horn and whalebone; 4, all kinds of wood dust; 5, dust of vegetable origin—principally jute; 6, dust from animal fiber, except that of wool and silk factories; 7, dust of flouring mills and tanneries under certain conditions and for the workmen who are constantly exposed; and, lastly, 8, the dust of rag shops and that from carpet beating. The study of the effects of these various forms leads to the practical suggestions that fans should be employed to keep the air of shops and factories as free from dust as possible and that, in certain industries the workmen should be furnished with suitable ventilating masks.

A Dangerous Coloring Agent.—Chromate of lead is still largely used for coloring purposes, in spite of the discovery of numerous artificial yellows whose varied tints, as well as "fastness" on exposure to light, leave nothing to be desired in this respect. In the region around Lyons especially, great use is made of this agent and Roubaix and Rouen still use it to some extent. For some years past severe cases of plumbism have been observed in the spinning factories where cotton dyed while floating is wound. The Hygienic Council of the department of the Rhone instructed M. Cazeneuve to investigate the subject, and in his report he concludes that while lead chromate may still be tolerated for dyeing cotton cloth "in piece," for linings, etc., its use for dyeing thread for any purpose should be proscribed absolutely. On account of the "stiffening" and glazing to which it is subjected, piece cotton colored with the chromate gives off no dust, either in its preparation or in making up. M. Cazeneuve hopes that the prohibition, which has been ordered in the department of the Rhone, will be extended to the whole of France.

Cholera Precautions.—The recrudescence of cholera in some parts of Turkey and in Silesia in the early part of November—noted in the JOURNAL of the 10th ult.—seems to have convinced the health authorities of Europe that the dangers of the past season are to be repeated next year. At a recent meeting of the German Society of Public Health, Professor Koch said: "I scarcely think that the cholera, extended as it is in Russia, will quite disappear from that country next year. It will probably last a few years more and again spread to other countries." Referring to the exposed condition of Germany, lying in the center of Europe, he said that its invasion by cholera, when the disease exists in other European countries, can not be prevented and that all efforts must be directed to making it harmless when it does appear. *Per contra*, disinfecting stations have been established on the Russo-German frontier at Bajohren, Edytkuhnen, Prostken, Illowa and Ottlotschin—through which all Russian emigrants must pass before entering German territory. While the direct effect will be to protect Germany their establishment is due to the immigration laws of this country; all Russian emigrants are examined at these stations, and those afflicted with contagious diseases, or who are found to be such as would be debarred from landing in the United States, are turned back and not allowed to pass. The stations have been established by the North German Lloyd and the Hamburg-American steamship lines.

Relations of Avian to Human Diphtheria.—Since 1888 diphtheria has sensibly diminished its ravages in Belgium, while measles and whooping-cough have increased; in 1892 the number of cases of diphtheria was less than at any time since 1856. M. Schrevens has studied the etiology of diphtheria for many years and has collected a large number of facts which, to him, demonstrate the necessity of certain prophylactic measures. In a recent issue of the *Presse Médicale Belge* he insists on the important part which the Italian hens and game-cocks take in the pathogeny of human diphtheria and seeks to define exactly the meaning of "avian origin of diphtheria." Diphtheritie germs, he says, preëxist in the avian diphtheria, *nifflet;* this is no more spontaneous than is human diphtheria; the hens and cocks are not creators—they only awake into activity the germs sown on the surface of the ground; the passage of the germs on to the mucous membrane of the fowl renders them more apt for later fixation on the mucous surfaces of human beings. The author then gives the results of an inquiry he made last May into the origin of an epidemic at Marcq, a small hamlet, in which he establishes the fact that the germs were transported by some hens, bought Oct. 11, 1892, in a neighboring market-town; four children died among those attacked. He also cites cases at Rumes, due to a cock affected with *nifflet;* the two children first attacked died, but in the meantime they had infected the school and soon ten or more other scholars presented diphtheritic symptoms. M. Schrevens' observations are confirmed by those of Dr. Bricoult at Ressac in 1888, and of Dr. de Dinant at Falmagne in 1891. Both these practitioners agree that chickens affected with avian diphtheria were the starting points of the epidemics at these places.

Pandemic of Diphtheria.—Reports from all parts of the country, except the south Atlantic area, indicate a wider diffusion of diphtheria than ever before recorded in the United States. The mortality does not seem to be unusual, with occasional exceptions, and, in the absence of any general system of compulsory notification of the contagious diseases, the number of cases can only be inferred from the death returns, from the indications of popular alarm in the closing of schools, the enforcement of quarantine, etc., and from the overcrowded condition of the isolation hospitals. Importation of the antitoxin serum has been practically suspended, owing to the growing home demand in France and Germany, in which countries are the only establishments for its production on any considerable scale. Thus far the output of the British Institute of Preventive Medicine has been only sufficient to supply one of the London hospitals, and the

product in this country is even less. There is no abatement of the enthusiasm and interest of the profession and the public of the countries of Roux and Behring, and it is especially gratifying to note again the generosity and true scientific spirit with which each of these two eminent savants insists on the recognition of the other in connection with what, up to date, seems to be one of the most brilliant therapeutic and prophylactic advances of the century. The latest occasion of the manifestation of this spirit was the presentation to Dr. Roux of the *Grand Diplôme d'Honneur* by the Sauveteurs de la Seine. In expressing his thanks the Professor said a discovery was attributed to him which he had not made; he had only applied it, and he included in the evolution of the discovery the names of Pasteur, Löffler, Koch and Behring. Considerable dissatisfaction is expressed at the course of the British Institute in withholding the name of the hospital to which is furnished all the serum prepared by the Institute, and which, in turn, surrounds itself and the results of its antitoxin treatment with what is styled an "absurd mystery." It is urged that it is the bounden duty of the Institute—after making a successful appeal to the public for the funds necessary to produce the serum—to see to it that the product is so used as to secure an authoritative verdict upon the merits of the treatment in the shortest possible time, and that the research necessary for such verdict "would have taken little more than six weeks to complete," while with the present policy of secresy "the medical profession can not obtain a definite opinion for an indefinite period." The situation seems to be similar to that in this country. There, as here, the profession is inclined to be skeptical and demands conclusive proof; and there it will refuse to accept as such proof, results obtained through the action of a non-official volunteer organization operating in a favored hospital whose identity is concealed and whose clinical records are unduly withheld. So far as the profession of this country is concerned, its demand was concisely expressed in last week's issue of the JOURNAL: Pending an adequate supply of the serum with which to make individual tests only an authoritative report, after due investigation by a National commission, composed of members selected for their attainments in the branches of medical science involved in the modern system of serotherapy, will be accepted as conclusive of the merits or demerits and of the scope and limitations of the diphtheria antitoxin.

MISCELLANY.

Change of Address.—Dr. Thomas H. Manley to 115 West Forty-ninth Street.

Medical Sketch by Gladstone in Preparation.—Mr. Gladstone is reported to be engaged in writing a biographical sketch of the late Sir Andrew Clark, his own long-time physician and friend. An American journal is to have the copyright.

A Serous Joke.—Apropos of the record of the antitoxin when used in the early stages of diphtheria, the new medical joke in Berlin is the addition of another clause to the familiar "Resist the beginnings" of Ovid: *Principiis obsta; sero medicina paratur.*

The Word was Cabbage.—Readers of the article on "Medicine in Ancient Rome," published in last week's issue of the JOURNAL, are not compelled to accept, as the English equivalent of the French substantive *chou*, the word printed in said article "callage;" *cabbage* was the basis of Cato's therapeutics—"good, both externally and internally, it cured all diseases," etc.

The New York Lying-in Hospital.—The trustees of this institution have been enabled to get a valuable piece of property on Second Avenue and Seventeenth Street, for $200,000, of which $90,000 is to be paid at once. This society is nearly a century old, but it has not hitherto been in the possession of a hospital building.

Cerebral Complications of Gonorrhea.—Pitres has observed apoplectic symptoms followed by hemiplegia in two patients suffering from acute gonorrhea. One of these was of an age and general condition which rendered the explanation of the hemiplegia by the usual causes difficult. The author asks (*Revue Nèvrologique*) if this disease may not give rise to cerebral softening. We know that myelitis is also one of its complications.

Another American Hospital in China.—Members of the Low family, living in New York City and Brooklyn have just built, in Wu-Chang, and presented the same to the Protestant Episcopal Mission, a well-appointed hospital for the use of the mission and of the natives of that city. The motive for the erection of this new institution was the honoring of the memory of the late A. A. Low, father of two of the donors, and for many years a resident of China, at Canton chiefly. The new structure bears the title of the St. Peter's Hospital.

Another Anecdote of Dr. Holmes.—The following, from the Boston *Record*, is an anecdote that may fairly be called "characteristic" of the poet-professor; it is odd, yet doubtless truthful to the very center; it is philosophic, modest and void of selfishness: "I asked Dr. Holmes only a few weeks ago, as he was calmly speaking of the possibility that he might not see another birthday, if he had made any arrangements concerning a literary executor or biographer.

"'No,' said the old poet; 'I must leave that to others to arrange. All my old friends are gone before me. Some one will be found to attend to it.'

"'Perhaps your son will do it,' I suggested.

"'Oh, no,' said Dr. Holmes; 'I do not think that he would care to trouble himself with it; it is not at all in his line. He prefers to devote himself wholly to law.'"

Another "Fortuitous Combination."—Dr. Viquerat—whose pretentious claims to the discovery of a "sure cure" for tuberculosis by the serum of asses' blood, were referred to in a recent issue of the JOURNAL (October 20, p. 623)—irresistibly recalls that scriptural hero referred to in Judges xv, 16. Dr. Viquerat recently expounded at great length a new and entirely original theory of the bacterial toxins—in effect, that it is the death and not any living action of the bacteria which is toxific. He talked for nearly an hour, completely exhausting the patience of his auditors, members of the Société Médicale de Suisse Romande, and—according to the report in the *Journal de Genève*—"Full of enthusiasm for his discovery, the lecturer ended with this picturesque exclamation: 'Viquerat's ass has killed the learned Koch!'" Whereat the JOURNAL is moved to remark that *le flot de l'âne* is truly a terrible weapon.

What the Country Editor Knows about Medicine.—Mr. "John Quad" has the following explanation to offer why it is that so much profound wisdom as to medicine can be found in the columns of the country editor's paper: "His knowledge of medicine enables him to distinguish accurately the difference between a gum boil and a felon, when he sees one in the mouth and the other in jail, or to diagnose it as a case of hog cholera when a delinquent subscriber dies. He knows that poll-evil is due to bad politics, and that ring-bone and string-halt are accountable to the same bacillus. He recognizes that splints—especially on the brain—are resultant from heavy 'jags,' and that 'jim-jams' are not caused by microbes, like

consumption of the lungs, blood or tissues, but by the consumption of whisky. He is satisfied that one may have an excess of gall without being troubled with gall stone, though he may have to dodge a brick now and then, and that conceit is not a secondary symptom of greatness, nor the tintinnabulating mouth the indice of brains."

A Community Without Vaccination.—Dr. Kerr, writing from Rabat on the westerly shore of Morocco, states some facts that will serve to remind the anti-vaccinationists of England of the condition of their own country before the grand discovery of Jenner. Smallpox makes fearful havoc among the Moors with whom Dr. Kerr has lived seven years. During an epidemic at Rabat, over one thousand persons died from that disease in the course of two months. Rabat is a town on the Atlantic seaboard of Morocco having a population of 26,000. Of the conditions of the town during the epidemic, Dr. Kerr writes the following: "Often we felt it sickening when going through the streets, to see young men and boys sitting at shop doors, flour mills, etc., covered with smallpox eruption, in every way facilitating the spread of the disease. Every one thinks that it is impossible for him to escape smallpox, hence no precautions are taken. It is painfully sad to see so many people who have lost the sight of one eye, while many are blind altogether. One day not long ago, I paid a passing visit to a *douar*, or collection of tents, outside the city, and it was touching to see the mothers bring their children, asking me to put the medicine in their arms to prevent the infection. I vaccinated all the children in the village, and although they were surrounded by smallpox none took it."

These conditions, given by Dr. Kerr as to the Africa of to-day, are a simple repetition of what existed in England and Europe before Jenner's great boon to mankind was made possible.

Unequal Distribution of Cancer.—At the recent Medical and Surgical Congress held at Lyons, France, Dr. Gueillot, of Rheims, presented some statistics showing the unequal distribution of cancerous disease. In Paris and in Rheims there are only 100 cases to 100,000 persons, while in one district of the Department of Aisne there are 1,400 to every 100,000. Dr. Gueillot adduces these figures as further proof of the contagiousness of cancer, and cites also instances where the inhabitants of a particular district of a town or the occupants of a particular group of houses have been especially visited by the disease. He has known of fifteen so-called "cancer houses," in each of which three or four tenants—an aggregate of fifty persons—have successively fallen victims, and of 103 other houses in each of which there were two successive cases of cancerous disease. Of these latter, fourteen were fellow lodgers, relatives, or master and servant, and of the remaining eighty-nine, more than four-fifths were husband and wife. Gueillot believes that, while transmission of the contagion may be direct through personal contact, it is more frequently through wearing apparel or table utensils; in two cases he traced it to the medium of a tobacco pipe used in common by a cancerous subject and his "chum." In sixty-four cases the interval separating the appearance of the disease in the two related persons was less than two years. He cites nine cases of physicians who contracted the disease unmistakably from attendance upon cancerous cases. Finally, Dr. Gueillot discredits the supreme influence of heredity in cancer; his analysis of the history of cases shows that only 12.5 per cent. can be fairly attributed to this source, while if the number of persons born of cancerous parents be taken into account, the proportion is reduced to between 5 and 6 per cent.

A Medical Bill of Fare.—Dr. Thomas Dolan, in the current number of his *Provincial Medical Journal*, re-copies the following "prandial prescription" for a dinner given by the Metropolitan Branch of the British Medical Association—a bill of fare composed, as Dr. Dolan observes, "in Latin choicer than that of the Pharmacopœia:"

Programma.
Consociationis Medicæ Brittanicæ.
Sectionis Metropolitanæ.
Convivium.
Apud Hospitium Navem Grenovicensem dictim.
A.D., VII. Non. Julii. A.C. MDCCCLXXX.
Ad canes medicamenta abjice—"Dulce est desipere in loco."
Schema Epuli.
"Ab ovo usque ad mala."
Jura.
Consummatum Habershonis—Purificatum vernale Woodii.
Pisces.
Pleuronectes percocti. Salmo elixus cum jure Humari.
Minutalia ad Homaros. Soleæ parvulæ frixoria coctæ.
Merlangi intriti Superlativi.
Anguillæ Griggii Vino Lusitanico adjuvante.
Trutta craticulata cum jure infernali. Assulæ Salmonis more Indorum.
Clupeæ infantiles simpliciter modoque diabolica redditæ.
Introitus.
Pancreata Vitulina Dicksoni
Pulluli granarienses more Zingariensium.
Relevata.
Sella ovina fuscatim cocta. Spinacia Boni Henrici.
Mensa altera.
Anaticulæ domesticæ ope pisorum perfectæ.
Intermissa.
Jusculum coactum Macedonicum.
Placentulæ diversæ. Glacialis Nesselrodica.
Fraga cremore mollita. Aqua Citroni.
Lactus coagula compressa. Vars (*a*. Stiltonesis; *b*. Cestrensis.)
Acetaria.
Bellaria.
Vina Interprandialia.
Xericum. Rhenicum ad Hoc. Companense Spumans.
Symposium.
Veteris Bacchi Libationes. "Deprome quadrimum, O'Thalliarche."
Vina.
Luscitanicum—Xericum—cognomine—"Amontillado" et et quod ex ædibus Margaviensibus "Claret."

Propinationes. Orationes Demosthenicæ.
Joca. "Risum (ne) teneatis amici."
Sanctæ Nicotianæ Consolatricis Cultus.

Professional Prospects in South Africa.—For the benefit of any JOURNAL reader affected in his practice by the distressing healthfulness of this country and who may think to better his condition by emigration, the following information concerning medical practice in South Africa is offered. It is the substance of a communication to the *Deutsche Medizinische Zeitung*, by a writer who has practiced in various parts of the country for eight years, and who views the situation mainly from a German standpoint. South Africa, while not thickly settled, has some large towns—Capetown and Johannesberg, 60,000 each, Kimberly 25,000, Port Elizabeth 20,000—and these are well provided with doctors and the situation is similar to that in Europe; calls from 2½ to 5 shillings. The gold mines have attracted a large European population, and the newer towns are rapidly increasing in population; these, also, are nearly as well supplied professionally, it being rare to find a place with less than two physicians. Many of the Boer families' sons have become doctors and have advantages over strangers through acquaintances and familiarity with climate, customs, etc. It is possible, however, to find a good location, especially in combination with a drug store; but, besides drugs, instruments, etc., a capital of from 8,000 to 10,000 marks is necessary for subsistence for the first year or two. The foregoing applies as well to Cape Colony and the Orange Free States. The Transvaal, and especially Johannesberg, the capital, are literally overrun with doctors; the capital in 1888, when only one year old, had 10,000 inhabitants and 24 doctors; in 1889 the population had doubled and the doctors increased to 26; now there are 100 medical men for its 60,000 inhabitants. Living is high; it costs a man with a family from 16,000 to 20,000 marks a year to live comfortably. Pretoria has 18 doctors for its 10,000 inhabitants, and it is no exaggeration to say that, in the Trans-

vaal, there is no hamlet of twenty to thirty houses without a doctor. Most of these live off mining companies which pay about 200 marks a month for a laborious and unpleasant service among hundreds of black and white miners. The climate is agreeable, especially in Cape Colony, though Johannesberg, being elevated, is exposed to winds and the winter is severe. The author adds that the study of the endemic diseases is interesting and that the surgeon has frequent opportunity for his skill owing to the numerous mining accidents. Specialists are obliged to undertake general practice as well, as their fees are not commensurate with those of Europe.

Abandonment of Fort Sully, S. D.—This post was one of those established when the regular troops took possession of the Western country after the close of the civil war. Its construction was begun in 1866. It was situated on the east bank of the Missouri River, twenty miles below the mouth of the Cheyenne River. At that time the nearest posts were Forts Randall and Rice, the one 200 miles below and the other the same distance above the site of the new post. Yankton, the nearest town, was distant 300 miles down stream. The mail wagon ran from Sioux City once a week, taking six days for the journey; by the river route the trip from Sioux City could be made in from eight to sixteen days. Even now, at the time of its abandonment, it still remained somewhat isolated, being twenty-three miles distant by stage from Pierre, the State capital of South Dakota. It was built on a terrace about one hundred and sixty feet above low water, the ground rising behind it to the north and east about one hundred feet to the level of the rolling prairie lands beyond, sloping on the south to a deep ravine and on the west to a second terrace, about one hundred yards wide, on which were built the stables, granary, sawmill, etc. Below this terrace lay the bottom lands subject to overflow. The winters were severely cold, the prevailing winds from the northwest with little snow. The summers were excessively hot, with southerly winds and dust storms. In the spring frequent rains gave promise of a luxuriant vegetation, but a few days of hot weather destroyed everything, and left a brown barren landscape. The extremes of temperature were 37 degrees and 110 degrees F. The barracks for four companies consisted of a building 700 feet long by 17 feet wide, with a sallyport 15 feet wide in the middle of its length. The walls were of cottonwood logs, lathed and plastered. The interior was ceiled and divided by partitions into squad-rooms, mess-rooms, kitchens, etc.; the guard house and prison rooms were next to the sallyport. The dormitories were fitted up with rough wooden bunks, double and in tiers as in the emigrant ship, even as late as 1875, when the air space per man was only 255 cubic feet. The latrines, the earth pits of actual field service, were at the usual distance in rear. There were no lavatories or bath-rooms; the men washed in the open air. The officers' quarters were frame buildings affording nothing but shelter, and not any of that to spare. Two six or eight mule teams were constantly engaged in hauling water from the river, the allowance necessarily scanty and the quality inferior. Post gardens were cultivated in the river bottom, and in favorable seasons these were fairly productive. Improvements were slow in taking place at this post. Water was not introduced until 1890. Time was lost in an unsuccessful attempt to reach deep well water; the effort was given up after boring 977 feet. Ultimately a good supply was obtained from twenty wells in the river bottom. The water was pumped into a reservoir and distributed by gravity through six inch mains and three-fourth inch service pipes. Meanwhile frame buildings were constructed with ridge ventilation and fresh air inflows beneath the flooring, opening under the stoves. A bath-house was built with ten tubs and a plentiful supply of hot and cold water. The men were required to take a bath once a week, and a record was kept at the bath-houses. Earth closets were substituted for the pits formerly used, but the post never attained to the dignity of possessing a sewerage system. The natural drainage was good so far as regards rainfall; but the open ditches for the removal of waste water were a nuisance, foul in summer and useless from frost in winter. The hospital was closed November 19, in accordance with recent orders abandoning the post.

"Doctor Rabelais."—Since the following quaint conceit, from the versatile pen of Mr. Eugene Field, is given to the world through the medium of the *Book-Lover's Almanac*, 1895, in an edition limited to 500 copies only, the JOURNAL must give space for its wider circulation among those who will best appreciate it—members of the profession which the great humorist never quite abandoned even after he had become the immortal chronicler of the wonderful *Gargantua* and his still more marvelous son, *Pantagruel:*

DOCTOR RABELAIS.

By Eugene Field.

Once—it was many years ago,
In early wedded life,
Ere yet my loved one had become
A very knowing wife—
She came to me and said: "My dear,
I think (and do not you?)
That we should have about the house
A doctor's book or two.

"Our little ones have sudden ills
Which I should understand
And cure, myself, if I but had
A doctor's book at hand.
Why not economize, my dear,
In point of doctor's bills
By purchasing the means to treat
Our little household ills?"

Dear, honest, patient little wife!
She did not even guess
She offered me the very prize
I hankered to possess!
"You argue wisely, wife," quoth I.
"Proceed without delay
To find and comprehend the works
Of Doctor Rabelais."

I wrote the title out for her
(She'd never heard the name!),
And presently she bought those books
And home she lugged the same;
I clearly read this taunting boast
On her triumphant brow:
"Aha, ye venal doctors all,
Ye are outwitted now!"

Those volumes stood upon the shelf
A month or two unread,
Save at such times by night I conned
Their precious wit in bed:
But once—it was a wintry time—
I heard my loved one say:
"This child is croupy; I'll consult
My Doctor Rabelais!"

Too soon from her delusive dream
My beauteous bride awoke!
Too soon she grasped the fullness of
My bibliomaniac joke!
There came a sudden, shocking change,
As you may well suppose,
And with her reprehensive voice
The temperature arose!

But that was many years ago,
In early wedded life,
And that dear lady has become
A very knowing wife;
For she hath learned from Rabelais
What elsewhere is agreed:
The plague of bibliomania is
A cureless ill, indeed.

And still at night, when all the rest
Are hushed in sweet repose,
O'er those two interdicted tomes
I laugh and nod and doze.
From worldly ills and business cares
My weary mind is lured,
And by that doctor's magic art
My ailments all are cured.

So my dear, knowing little wife
Is glad that it is so,
And with a smile recalls the trick
I played her years ago;
And whensoe'er dyspeptic pangs
Compel me to their sway
The saucy girl bids me consult
My Doctor Rabelais!

Liability for Delay in Transporting Medicine.—Physicians have frequently to send medicines to patients by what the law terms common carriers. Suppose these public servants are remiss in the performance of their duties, does any one have a legal redress? For example, a Texas doctor prescribed, and directed a druggist to send medicine by express, for a woman lying seriously sick near another railway station. the medicine was delivered by the druggist's clerk to an employe of the railway company, to be carried by express,

the latter being informed of the nature of the package and the importance of its being sent on by the next train. The railway employe gave the package to the regular agent of the express company, telling him it was to go on the train that night, but without informing him of the nature of its contents. The package, however, was not sent until the next day evening. The sick woman's sufferings, it was proved, in an action brought to recover damages from the express company, were increased by the failure of arrival of the medicine, and that the medicine would have relieved her; and the testimony tended to show that in consequence of its non-arrival she grew worse, and had a long spell of sickness, requiring medical attention, and expenses for a physician, who attended her afterwards for nearly three months. The case was tried by the court without a jury, and judgment rendered for the woman's husband, who it was that sued the express company, for $306 for physical pain and mental suffering of his wife, $25 for his own mental suffering, and $40 for medical bill, making $365 in all. Under these circumstances, the Court of Civil Appeals of Texas holds, in a decision rendered Oct. 10, 1894 (Pacific Express Company v. Black), that the employe of the railway company was so held out by the express company as its agent as that his agency might be implied by persons dealing with him as such, and that the fact that no receipt was given, and no written contract made to ship the package, would not prevent a recovery, if it was accepted for shipment. There was testimony before the court, in this case, from which it might be implied that the employe of the railway company was the agent of the express company to receive the package for shipment. He was notified of the fact that the package contained medicine for the woman who was sick, and that it was important that it should be sent on the next train. This, it is held, was notice to the company, rendering it liable for the injury occasioned by its neglect in forwarding the package with reasonable dispatch. Injury, both physical and mental, was shown to have resulted to the woman by the neglect of the company in delaying the shipment; and, the court declares, it must be held her husband was entitled to recover for such injury. It was not error to admit evidence showing the physical and mental suffering of the woman as the result of the failure of the express company to forward the medicine in reasonable time. But the sympathetic mental sufferings of the husband on account of the suffering and pain of the wife in prolonged labor, caused by the company's failure to deliver the medicine were too remote and consequential. His wife was the direct sufferer, which caused him anxiety and alarm. Her injuries were the proximate result of the default of the company. To allow a recovery for the mental anxiety of the husband on account of the wife's increased suffering, either mental or physical, would be to allow a double recovery for the same cause of action. The trial court should, therefore, not have allowed the $25 for the husband's injury. Nor was it correct to allow the amount of the medical bill due to the physician attending the woman in her long sickness. It was too remote, and could not have been in contemplation of the parties. The judgment was, on these grounds, reversed as to the amounts allowed to the husband on his individual account and the medical bill, but affirmed as to the amount allowed for the suffering of his wife.

The English Doctor and the Amir of the Afghans.—Dr. G. A. Gray, who for a time was court practitioner at Kabul, has written in the *Lancet* an account of the bitter-sweet aspects of lofty official rank in Afghanistan. He says: "It is a not uncommon occurrence in Afghanistan for an attempt to be made to poison the King. Amir Shere Ali is reported to have died under somewhat suspicious circumstances. The present Amir's father also died suddenly very soon after he came to the throne. Sirdars or nobles of the Amir's own tribe of Barakzai Durrâni are set to watch over his Highness' food and drink, so that, as almost every Afghan has his price, it is possible that the Amir thought a European might have his price also. It is the custom in Afghanistan for the Hakim who is attending the King to drink some of his own medicine before the King tastes it. This was never required of me, but his Highness, though he called me when he was ill, did not as a rule, ask me to prescribe for him till after he had tried the effect of his own medicines and those of the Hakims. When, however, he had once placed himself under my care he followed out exactly the instructions I gave him. One slight precaution alone was taken; a Hindostani hospital assistant, one of the better trained, was set to observe and make a note of every drug I used, and I gave him every facility for doing so. I was not asked to treat the Amir medically until I had been many months in his service. His Highness did not ask to see my diplomas, but he received reports as to the effect of my treatment upon other people. I shall never forget one occasion on which he called me to attend him. It was in Kabul after our return from Turkestan. His Highness was taken ill with gout while I was suffering with the diarrhea alba that I spoke of, so that he had been ill for two months or more before I saw him. It was 9 o'clock one night (Dec. 2, 1890) that I was called, and I found his Highness lying upon his couch rolling his head from side to side in extreme pain. The princes and the chief officers of the kingdom were there kneeling round the room, for they thought his Highness would not live till morning. He was certainly exceedingly ill, and it struck me at the time that I was in as much danger as he, for should he not recover there was scarcely a possibility of my escaping. Apparently, he had had gout in every one of his joints, but when I saw him the acuteness of the inflammation was confined to the right shoulder, elbow, wrist and knee. There was a large patch of crepitation in the left axillary line. He had inflammation of the tonsils and catarrh of the bladder, so that he was passing a drop or two of scalding urine every minute or two; the urine was albuminous to the extent of one-fifth, and his temperature was 103 degrees. He had had no sleep for several nights. I stayed in his room for five days and nights, applying hot belladonna fomentations and administering the medicines myself. As soon as his condition improved I began to make inquiries as to the line of treatment that had been adopted before I saw him. The Hakims had been attending his Highness. They had begun by administering three or four drastic purges; then they leeched the foot that was inflamed, putting on at one time, I was informed as many as a hundred leeches. Suppose we divide this number by three to allow for Oriental flights of imagination, thirty leeches will do. This was not enough, and they bled him frequently; at one time to such an extent that he was insensible, I was told, for twelve hours. Again allowing for Orientalism, say he fainted and was insensible for a few minutes; this is sufficient. Relief being but temporary, and the pain on return severer than ever, they were at their wits' end to relieve their royal patient. They, therefore, tried the effect of plunging the gouty joint into ice-cold water. How many times this was done I can not say, or what other 'remedies' they made use of; but after two months and a half of this treatment his life was in no little danger, and the Feringhi doctor was sent for.

"In spite of the kindness and courtesy with which I was treated at the court, I did not find the experience an altogether agreeable one until his Highness was out of danger. He finally recovered in the spring; but had he not been an exceptionally robust man he could never have borne the treatment to which he was subjected by his native physicians."

Louisville Notes.

Louisville Clinical Society.—At the regular meeting of this society, the annual election of officers was held. The following were the choice of the society: Dr. George W. Griffiths, reëlected President; Dr. Philip F. Barbour, re-elected Vice-President; Dr. Louis Frank, Secretary.

Kentucky School of Medicine.—On the 22nd inst., the Faculty of the Kentucky School occupied for the first time their commodious new hospital and dispensary. The first floor of the new building is used as a dispensary. The rest of it contains an elegant amphitheater, wards, and private rooms, fitted out in the most modern and complete manner—steam heat and natural gas, illuminating gas and electric lights. The dispensary has a large waiting room seating about one hundred patients, and twelve private clinical rooms, and a drug room. There are, also, on this floor a library, a faculty and secretary's room. The part in the adjoining old building formerly occupied as the dispensary is to be remodeled and will be used as a chemical laboratory. With this new building of the Kentucky School, the new buildings of the Louisville Medical and the Hospital Medical Colleges, and the added clinical departments of the University, the city of Louisville is abreast of any city with modern facilities for medical teaching.

DR. DAVID W. YANDELL.—Dr. Yandell is lying critically ill at his residence 706 W. Chestnut Street, this city. The announcement of this fact will cause sorrow among the Doctor's many friends throughout the country. He has not been well since his return from a hunt in the West, and there is no improvement as yet in his condition.

ST. JOSEPH'S INFIRMARY.—This institution is located on Fourth Avenue near the U. S. Custom House. The first section or central portion of the infirmary was erected by the Jesuits for college purposes in 1849. In 1852 it was bought from the Diocese by the Sisters of Charity of Nazareth, and established as an infirmary under the charge of Dr. Appolonia McGill. The building at this time had eighteen rooms and three wards. The first patient was received Nov. 29, 1852. In 1890 the first addition of fifteen rooms was made, fronting Fourth Avenue, and in 1893 the second addition was built, connecting the main house and wing, including the chapel, an operating room, nine private rooms and a dormitory. At present there are forty private rooms, and two wards (male and female) of fourteen beds. The nursing is done by the Sisters of Charity, and there is one Resident Physician appointed after a competitive examination from the graduating class of the Kentucky School of Medicine.

DIPHTHERIA.—At present, Louisville is quite abreast of New York City, in that its physicians are enabled to have cultures made from all suspicious cases of diphtheria free of charge to patient or physician. Dr. J. B. Marvin has obtained from the Health Department of New York, a number of the culture tubes and swabs used in that city, and these can be had from Drs. Frank and H. H. Koehler. The inoculated tubes and the swabs are returned to these doctors, with a few notes on the case; duration of the disease, age and sex of patient, where contracted, etc., and in twenty-four hours a report is made as to the nature of the suspected bacillus. This is entirely conducted by the gentlemen named, but the Health Officer is interesting himself in it, and perhaps before long we may have it conducted by the city authorities. In all the cases examined thus far—some twelve or fifteen in number—the result of the inoculation has been verified by the clinical history of the case; showing how invaluable the examination is to the proper conduct of the case.

PLEURO-PNEUMONIA IN CATTLE.—Dr. J. N. McCormack, Secretary of the State Board of Health, has investigated the report received from England, that Kentucky cattle exported to Liverpool were found to have pleuro-pneumonia. In the first place, he learned that the suspected cattle did not come from Kentucky, as was reported in the Washington despatches. Dr. McCormack is satisfied there is no pleuro-pneumonia in Kentucky and there has been none. The error in attributing the suspected herd to Kentucky is one that is calculated to injure the interests of the many export breeders of the State.

MORTALITY REPORT.—The weekly city mortality report shows a total of sixty-five deaths. There were from phthisis eight deaths; from diphtheria four; typhoid fever two; and from pneumonia sixteen deaths. There were thirty-six male, twenty-nine female, forty-five white and twenty colored.

New Orleans Notes.

TULANE UNIVERSITY.—At a recent meeting of the Faculty of the Medical Department, Tulane University of Louisiana, women were admitted on a parity with men in the Pharmaceutical School, and will be granted degrees. This action allows them to attend the lectures on chemistry, medical jurisprudence and toxicology, hygiene, materia medica and therapeutics, while previous to this they were granted certificates and the privileges of the practical laboratories only.

DIPHTHERIA ANTITOXIN has taken a strong hold. Last week Dr. P. C. Archinard, Bacteriologist of the State Board of Health and Demonstrator of Bacteriology, Medical Department Tulane University, sailed for Europe via New York to personally study the subject. The public have responded nobly with subscriptions for the purchase of this new remedy, and there is considerable talk of establishing a station for the manufacture of the article in this city.

THE PUBLIC SERVICES.

Army Changes. Official list of changes in the stations and duties of officers serving in the Medical Department, U. S. Army, from Nov. 17, 1894, to Nov. 23, 1894.

Capt. ADRIAN S. POLHEMUS, Asst. Surgeon, leave of absence granted is changed to leave of absence on account of sickness, and is further extended to include Dec. 26, 1894, on surgeon's certificate of disability.

Navy Changes. Changes in the Medical Corps of the U. S. Navy for the week ending Nov. 24, 1894.

Surgeon FRANKLIN ROGERS, ordered to the U. S. R. S. "Wabash."
P. A. Surgeon E. P. STONE, detached from the U. S. R. S. "Wabash," and to the Naval Hospital at Boston.
P. A. Surgeon CLEMENT BIDDLE, detached from the Marine Recruiting Rendezvous, Philadelphia, Pa.
Asst. Surgeon T. W. RICHARDS, ordered to Naval Laboratory and Department of Instruction.

Marine-Hospital Changes.—Official list of changes of stations and duties of medical officers of the U. S. Marine-Hospital Service, for the ten days ending Nov. 15, 1894.

Surgeon H. W. AUSTIN, to proceed to Boston, Mass., and assume command of Service, Nov. 10, 1894.
Surgeon FAIRFAX IRWIN, to assume charge of Quarantine Division of the Bureau, Nov. 14, 1894.
P. A. Surgeon W. P. MCINTOSH, granted leave of absence for fourteen days, Nov. 8, 1894.
P. A. Surgeon G. B. YOUNG, granted leave of absence for seven days, Nov. 8, 1894.
Asst. Surgeon EMIL PROCHAZKA, granted leave of absence for thirty days, Nov. 14, 1894.

LETTERS RECEIVED

Adams, C. W., Kansas City, Mo.; Atkinson, W. B., Philadelphia, Pa.; Andrews, Edmund, Chicago.
Bates & Morse Adv. Agency, New York, N. Y.; Brower, D. R., Chicago, Ill.; Ballenger, W. L., Chicago, Ill.; Blakiston, P., Son & Co., Philadelphia, Pa.; Ball, James M., St. Louis, Mo.; Benedict, Geo. H. & Co., Chicago, Ill.
Cumston, C. G., (2) Boston, Mass.; Culhane, T. H., Rockford, Ill.; Cunningham, S. A., Cedarville, Ohio; Columbia Chemical Co., Washington, D. C.; Christopher, H., St. Joseph, Mo.
Elliot, James, Wilmington, Del.; Earp, E. S., Indianapolis, Ind.
Freeny, G. W. Pittsville, Mo.; Fowler, Geo. R., Brooklyn, N. Y.; Fringer, W. R., Rockford, Ill.
Gunn, John, Hilsa Craig P. O., Ontario.
Hancker, W. H., Farnhurst, Del.; Holtgrewe, F. W., St. Louis, Mo.; Hummel, A. L., (2) Philadelphia, Pa.; Högler, E. E., Springfield, Ill.; Haldenstein, I., New York, N. Y.; Hodgson, A. J., Waukesha, Wis.
Ingals, E. Fletcher, Chicago, Ill.
Jackson, Thos. J., Chicago, Ill.
Kegan, Paul, French, Trübner & Co., Ltd., London, Eng.
Linnaeus, M. S., St. Paul, Minn.; Lowenthal, L., Washington Heights, Ill.; Lehn & Fink, New York, N. Y.; Lord & Thomas, Chicago, Ill.
Mergler, Marie J., Chicago, Ill.; Montizambert, F., Toronto, Ont.; Morse, F. P., New York, N. Y.; Mattel, Wendel, West Saginaw, Mich.; Magruder, G. L., Washington, D. C.
Newman, H. P., Chicago, Ill.
Pennington, J. R., Chicago, Ill.; Peters, B. B., Christiana, Del.
Rhodes, J. E., Chicago, Ill.
Sim, F. L., Memphis, Tenn.; Sanders, Enno, M. W. Co., St. Louis, Mo.; Sherwood, W. E., Wilmington, Del.; Stuart, J. H., Minneapolis, Minn.
Tripel, T. T., Long Green P. O., Md.
Western News Co., Chicago, Ill.; Walker Pharmacal Co., St. Louis, Mo.; Worley, S. G., St. Augustine, Fla.; Wells, E. D., Westminster, Md.
Yancey, E. F., Sedalia, Mo.

PAMPHLETS RECEIVED

John H. Kellogg. Practical Suggestions respecting the Ventilation of Buildings. The same. Relation of Static Disturbances of the Abdominal Viscera to Displacements of the Pelvic Organs.
John Aulde. Nucleins; a Clinical Study. Diet for Health.
S. A. Fisk. Some Meteorological Data.
E. R. Axtell. Four Cases of Chronic Pulmonary Involvement.
W. B. Dukeman. Resume of Twelve Hundred Examinations for Life
S. L. McCurdy. New York Letters on Orthopedic Surgery. Use of Traction in Treatment of Joint Diseases.
E. F. Ingals. Cauterization of Nares; Accidents that may follow.
F. B. Robinson. A New Method of Treatment of Uterine Myoma without Removal of the Uterus, by Ligation of the Ovarian Arteries and the Uterine Arteries, as they course along the sides of the Uterus.—The same. Gonorrheal Puerperal Peritonitis (Fever).—The same. The Sympathetic Nerve and Abdominal Brain in Gynecology. Its Reflexes and its Rhythm.—The same. A Surgical Method for the Cure of Uterine Prolapse or Sacro-pubic Hernia; (amputation of the pointed cervix, anterior colporrhaphy, Tait's perineal flap operation).—The same. Critique of Macroscopic Examination of Specimens removed in Thirty-two Consecutive Laparotomies (with one death).—The same. An Address delivered at the Commencement Exercises of the Toledo Medical College.
F. H. Wiggin. Celiotomy for Bilateral Pyosalpinx, followed four days later by Appendicitis—Operation—Recovery.—The same. A Case of Bilateral Ovarian Fibro-sarcoma.—The same. A Case of Chronic Peritonitis, with Intestinal and Abdominal Fistulæ—Enterorrhaphy—Recovery.—The same. A Case of Contusion and Rupture of the Ileum.